

Direct and Spillover Impacts of a Community-Level HIV/AIDS Program: Evidence from a Randomized Controlled Trial in Mozambique

PRE-ANALYSIS PLAN

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This document outlines the pre-analysis plan for the impact evaluation of the *Força à Comunidade e Crianças* (FCC) program.

1. Introduction

Out of an estimated 36.9 million people living with HIV worldwide in 2017, 25.7 million are in Sub-Saharan Africa. The U.S. Government's most important program responding to the HIV/AIDS crisis is the President's Emergency Plan for AIDS Relief (PEPFAR), initiated in 2003. Recognizing that children are among the most vulnerable populations in the context of the HIV/AIDS pandemic, PEPFAR mandates part of its funding be devoted to programs benefiting children orphaned or made vulnerable by HIV/AIDS ("orphans and vulnerable children," or OVCs). PEPFAR's programs for OVCs take an integrated approach, with interventions at child, family, and community levels; that target child needs at different developmental stages; and that are connected to other development programs related to education, nutrition, and household economic development (PEPFAR 2006). In fiscal year 2016, PEPFAR OVC programs supported 6.2 million OVCs and their caregivers worldwide (PEPFAR 2017).

The primary objective of this study is to provide credible estimates of the causal effects of a PEPFAR OVC program in Mozambique, *Força à Comunidade e Crianças* (FCC), and to shed light on the mechanisms through which it has its effects. We are interested in the following questions:

Question 1 (direct effects): What are the direct effects of the program on beneficiary households?

Question 2 (spillovers): Given that not all households in a community directly benefit from the program, to what extent do impacts spill over from directly-affected households to others that are geographically or socially proximate?

Question 3 (mechanisms): Through what intervening mechanisms do direct and spillover program effects operate?

The study addresses these questions using a three-part randomized controlled trial methodology. First, communities were randomly assigned to treatment or control status (inclusion in or exclusion from the FCC program). Second, a subset of households within communities were randomly assigned to a strong encouragement to participate in FCC programs ("directly enrolled" households). These directly enrolled households receive a home visit by an FCC program community worker and are assessed for inclusion in various FCC subcomponent programs. This will lead them to have higher participation rates in the program than other households in treatment communities. Other households not randomly selected for direct enrollment may end up being treated as well, but at lower rates.

These first two randomization components were carried out in 2017, and have led to varying household exposure to the FCC program throughout 2018. They allow us to answer Question 1 (on direct impacts) and Question 2 (on spillovers).

The third part of the randomized methodology is currently in the field, and is being implemented alongside the endline household survey. It is aimed at shedding light on whether particular mechanisms explain the impact of the program (Question 3). In particular, we are interested in whether improvements in households' *information about HIV*, *information about HIV treatment* (antiretroviral therapy, or ART), or *reductions in concerns about HIV-related stigma* are mechanisms through which the program achieves its effects. We will randomly assign simple treatments at the household level that our project staff will

administer immediately after the upcoming endline survey. (These treatments are detailed in the next section.) If these treatments are found to have smaller effects on directly-enrolled households in treatment communities than on households in control communities, we would take this as evidence that the program achieves its effects in part via these mechanisms.

A baseline survey was previously administered that defines a sample to follow over time through the upcoming endline survey, and that measured geographic and social proximity between households. Primary outcome variables of interest are directly-observed HIV testing and school attendance. The measure of HIV testing will be based on directly-observed redemption of financial incentive coupons for HIV testing. This will provide us a measure of receptiveness to a recommendation to get tested for HIV. We will measure child school attendance via direct observation in unannounced school visits by our project staff.

Primary and Secondary Hypotheses

The primary hypothesis (*Hypothesis P2*, detailed below) to be tested is that household assignment to strong encouragement for participation in the FCC program (which we refer to as directly-enrolled beneficiary or “DEB” status) leads to higher rates of HIV testing in the household and higher school enrollment among the household’s children.

Objective, directly-observed outcomes will be supplemented by household respondent reports from an endline household survey, which will be used for secondary analyses. The secondary hypotheses include hypotheses related to impacts on survey-reported outcomes, such as knowledge (related to HIV and ART), HIV testing and treatment, and sexual behavior. Secondary hypotheses also involve spillovers from strongly-encouraged (DEB) households to other households via mechanisms related to HIV information, ART information, and reductions in concerns about HIV-related stigma.

2. Research Design

A. Interventions

While the FCC program is multifaceted and can affect many possible outcomes, this study focuses its primary analyses and hypotheses on two central outcome variables, the central program component, and a subset of mechanisms (intermediate outcomes) through which effects may operate. From this perspective, we will measure the program’s overall impacts, measure spillovers from program beneficiaries to other households, and shed light on mechanisms through which the program achieves its impacts. Other outcomes, program components, and mechanisms will be the subject of secondary analyses, which can provide guidance for the foci of future studies.

To be specific, our primary focus is on the following:

- **Outcome variables:** HIV testing and school attendance
- **Program component:** Home visits by LIP staff (Case Care Workers, or CCWs)
- **Mechanisms / intermediate outcomes:** Information on HIV; information on antiretroviral therapy (ART); concerns about HIV-related stigma

We now describe the FCC program, highlighting in detail the outcome variables, program component, and mechanisms (intermediate outcomes) of primary interest. Other aspects of secondary interest will be described in less detail.

Força à Comunidade e Crianças (FCC, “Strengthening Communities and Children”) is a multi-year PEPFAR program whose high-level aim is to improve families’ and communities’ ability to support, protect, and care for orphans and vulnerable children (OVC) and their caregivers. The program is composed of a number of interrelated components, and is implemented in study districts by local implementing partner (LIP) organizations under contract to the international NGO World Education Inc./Bantwana. A number of FCC program components are school-based, and so programs are implemented in local communities surrounding a focal school. In each community, activities take place with the collaboration and advice of a Community Child Protection Committee (CCPC) whose

membership includes community leaders, volunteers, and local government officials. The program is implemented in seven districts of three provinces of Mozambique.¹

The most widespread FCC program component is **home visits** by LIP staff known as “Case Care Workers” (CCWs) to households in program communities. Roughly 700 CCWs work across the study communities. LIPs hire CCWs from the communities they serve, in part based on recommendations by the CCPC and community leaders. In common with the local populations they serve, they typically have no more than a primary school education. Roughly 80% of CCWs are female. They range in age from 18 to 48 with most falling between 25 and 40 years of age.

CCWs conduct home visits of households thought likely to be OVC households, based on personal knowledge and recommendations of the CCPC. The home visit itself is a conduit for dissemination of information and advice by CCWs, whose impacts we seek to measure. Households may then participate in other FCC components, based on the results of the home visit. In home visits, CCWs conduct systematic vulnerability assessments, and identified “OVC” households (and individuals therein) are then linked to appropriate programs and services in communities, schools, and health facilities. One of the most important results of these home visits is referrals of individuals for HIV testing at the nearest PEPFAR-funded health clinic. The expectation is that CCWs refer all FCC program beneficiaries who do not know their HIV status for HIV testing, and that even upon a negative test result testing should be repeated every twelve months. The number of individuals referred to HIV testing is a key outcome indicator for the FCC program, monitored by PEPFAR in the context of achieving the UNAIDS 90-90-90 global goals (90% of those with HIV diagnosed, 90% of those on ART, and 90% of those virally suppressed by 2020 (PEPFAR 2017)). Those testing positive for HIV are then referred to receive antiretroviral therapy (ART) through the clinic. CCWs in the community then follow up with individuals initiating ART to promote ART adherence on an ongoing basis. (For further detail, see Appendix A for the home visit guide, “Steps for a Home Visit”.) Because referral for HIV testing is one of the most important aspects of the home visit, it is one of the two primary outcome variables of interest in this study.

During initial and subsequent home visits, CCWs undertake activities to increase HIV testing rates via two mechanisms we will examine explicitly: information and stigma. CCWs seek to improve FCC beneficiaries’ **information related to HIV/AIDS**, such as methods of disease transmission, progression of the disease, treatment, HIV testing, and locations of health clinics providing testing and treatment. Information is conveyed verbally and, at the LIP’s discretion, on printed material given to the household. In addition, CCWs are expected to engage program beneficiaries in “sensitization” to address **stigma related to HIV** (both one’s own stigmatizing attitudes, and fear of stigma from others). CCWs engage in discussions to reduce stigmatizing attitudes among program beneficiaries. CCWs provide psychosocial support (PSS) and gradually gain program beneficiaries’ trust over time in repeated interactions, with the expectation that reductions in fear of stigma will encourage people to be open to HIV testing, voluntarily disclose HIV-positive status to CCWs, and be open to future CCW follow-up promoting ART initiation and adherence.

In home visits, CCWs are also expected to give caregivers advice and encouragement regarding **children’s education**. Caregivers are encouraged to make sure children go to school daily, have appropriate materials and uniforms, and have a place to study at home without distractions. They are encouraged to be involved in their children’s education, such as by establishing contact with a child’s teachers, maintaining contacts with a child’s friends, and helping with homework. Caregivers are also encouraged to discourage girls’ early marriage, and to keep girls in school even after the age of 18. (Further details on educational messaging can be found in the Education section of the home visit guide, Appendix A.) Given the prominence of education advice and encouragement in the home visit, child school attendance is the second of two primary outcome variables in the study.

The FCC program has a number of **other components**. Households are connected to these other components after the home visits, based on needs assessments conducted by CCWs. Many components are school-based, so children can also be included in these components through their schools. We briefly describe these other components below.

These other components are expected to reach only a relatively small fraction of those reached by home visits. Existing data on their penetration into the population is sparse, and so the endline survey will provide valuable insight into their actual coverage. The endline survey will collect data on household and

¹ Program provinces and districts are: Manica province (Manica, Chimoio, and Gondola districts), Sofala province (Dondo and Nhamatanda districts), and Zambezia province (Namacurra and Nicoadala districts).

individual participation in the different program components, and we will test whether outcomes are correlated with inclusion in different program components. These analyses will be exploratory and will establish correlations with participation in other FCC program components (rather than causality), so they are of secondary interest in this study.

These other FCC program components are as follows:

- Education subsidies for girls: The FCC program provides a limited amount of funding to support school participation among girls considered particularly at-risk of dropping out of school. LIPs will select the most at-risk girls in a particular community after consultation with school officials and the CCPC. Beneficiary secondary school-age girls will each receive up to US\$75 in school fees, elementary school-age girls up to US\$50 in school materials (books and uniforms). The exact amounts and funded items vary by community and LIP.
- Child Rights Clubs (CRCs): These are school-based clubs for both girls and boys aiming to equip children with knowledge and skills related to child protection, gender-based violence, and psychosocial support. Topics covered include early marriage, teen pregnancy, reproductive and sexual health, and HIV/AIDS. Participants learn how to report abuse and how to make healthy choices. Activities are child-facilitated with adult oversight. Girls concurrently also take part in associated "Girls' Empowerment Clubs" which provide additional mentoring and support tailored to girls.
- Health and Nutrition Assessments: Using an established protocol, LIP staff conduct nutritional screenings of OVCs aged 6 months to 14 years. Screenings occur in school and community settings. Children identified as malnourished may be provided with food supplements for a limited period, and the most severely malnourished are referred to health clinics.
- Youth Economic Strengthening (YES) clubs: YES clubs are a community-based financial education program for both girls and boys who are out-of-school OVCs aged 15-18. Separate clubs are established for girls and boys. The program provides livelihood and entrepreneurship training, aimed at small-scale commercial rather than subsistence agriculture.
- Village Savings and Loan (VSL) groups: VSL programs involve facilitating and training individuals to organize themselves into simple savings and credit groups, with the aim of improving access to savings and credit in populations that are poorly served by formal institutions. Members can take loans from the communal pool of savings, upon review and approval by the group. Loans are repaid with interest, at an interest rate decided upon by the group. Groups manage their own funds, which are all internally generated from savings and interest earnings from loans. LIP staff will form VSL groups with a mixture of OVC and non-OVC households, as well as youth participating in YES clubs.

Random assignment

This study uses a randomized controlled trial (RCT) methodology to estimate causal direct and spillover effects of the FCC program, and to shed light on some of the operative mechanisms through which it achieves its effects. The randomization was done in three parts or stages.

Randomization Stage 1

The FCC program is a community-level intervention, so the first stage was random selection of communities to receive or not receive the FCC program. FCC interventions are centered in primary and secondary schools, so geographic areas of interest are residential areas surrounding schools. (We refer to areas surrounding schools simply as "communities", each of which has a "focal school" where school-based program components are implemented.) World Education Inc./Bantwana consulted with local implementing partners (LIPs) and government officials in the three provinces and seven districts in which the FCC program was to be implemented to identify a set of 76 communities deemed to be "eligible" for the program. These communities were chosen on the basis of being geographically proximate to antiretroviral therapy (ART) sites (health clinics offering HIV testing and treatment), having sufficient OVC populations, and having no other active donor-funded HIV/AIDS programs. These 76 communities were then sorted into stratification cells of matched community pairs, sets of two communities that were very similar in terms of distance to ART sites, school type (secondary or primary), and student population size.

Within each matched pair, treatment status was randomly assigned to one community, with the other school assigned to control status. Randomization of treatment status within matched pairs helps ensure balance in baseline characteristics between treatment and control units, so that treatment-control comparisons can then be credibly interpreted as causal effects of the program. This random assignment was carried out on the computer of one of the co-authors, one-time, with no re-randomization.

The result of the randomization was communicated to World Education/Bantwana in November 2016. The FCC program was then implemented in treatment communities, and not in control communities. School-based components of the program were implemented in the focal school in each treatment community, and not in control communities.

Randomization Stage 2

The second stage of randomization, at the household level, was implemented only within treatment communities.

Of households originally contacted and consented by the study team, a subset were randomly assigned to be “directly enrolled beneficiaries” (DEBs) of the FCC program: their geographic coordinates and household head’s name and contact information were provided to World Education/Bantwana and their local implementing partners (LIPs). LIP staff (CCWs) then conducted household and individual assessments for FCC program subcomponents. Analyses facilitated by this random assignment to DEB status are outlined below.

Random assignment of households to direct FCC enrollment was carried out in November and December 2017 on the computer of one of the co-authors, one time, with no re-randomization. Out of the 40 OVC households administered the baseline survey in each treatment community, 15 were randomly assigned to DEB status (so 25 baseline households in each treatment community have non-DEB status). In addition, to enhance statistical power, we also randomly assigned DEB status to 20 VA-only households (households administered the VA but not the baseline survey) in each treatment community.²

This stage of randomization had two motivations. First, it creates a subgroup of households in treatment communities with relatively high take-up or participation in the FCC program. Estimates of the impact of the FCC program comparing this group to households in control communities therefore have relatively high statistical power. This deals with the possibility of low statistical power for treatment effect estimates based on generally comparing households in treatment and control communities (the share of households receiving FCC services in treatment communities is not expected to exceed 10%.) The second motivation is to measure spillovers of impacts to other households. Because DEBs were randomly selected, non-DEB households have random geographic and social proximity to DEB households. This facilitates credible measurement of spillovers from DEB to non-DEB households.

Randomization Stage 3

To allow insight into the mechanisms through which FCC has its effects, we are providing additional treatments alongside (immediately after) the administration of the endline survey to explore possible FCC mechanisms: HIV/AIDS information, and HIV treatment (antiretroviral therapy, or ART) information, and reductions in stigma concerns.

Households participating in the endline survey will be randomly assigned to one of the four groups described below, with equal probability. Treatments will be only be administered to consenting survey respondents.

- 1) **Anti-stigma:** This treatment provides individual-specific information aimed at reducing the respondent’s concerns about HIV-related stigma in the community.
- 2) **HIV/AIDS Information:** This treatment provides factual information about HIV/AIDS.
- 3) **Antiretroviral Therapy (ART) Information:** improve respondent’s information about ART (the treatment for HIV/AIDS).
- 4) **Control:** None of the above treatments.

Please see Appendix B for details about each of these treatments. These treatments will be randomly assigned on the computer of one of the co-authors without stratification, one time, with no re-

² This latter group of 20 households will also be surveyed at endline in treatment communities, as will a randomly-selected group of 20 (VA-only, no-baseline) households in control communities for comparison purposes.

randomization. The Stage 3 treatments are independent of (orthogonal to) the Stage 1 and Stage 2 randomizations.

These treatments are included in the study to shed light on whether information about HIV/AIDS, information about ART, or reductions in stigma are mechanisms through which the FCC program has its effects. We provide further details about these analyses below.

B. Hypotheses

Primary hypotheses

The primary question of interest in this study is **Question 1 (direct effects)** mentioned in the introduction: what are the direct effects of the program on beneficiary households?

We address this question by estimating the causal effect of a household being a directly-enrolled beneficiary (DEB) of the FCC program, all of whom are in treatment communities. In estimating this effect, all households in control communities will be the control group. (Non-DEB households in treatment communities will be the subject of secondary analyses.)

Among primary outcomes of interest, there are two types. First, there are outcomes measuring knowledge of, contact with, and services provided by the FCC local implementing partners (LIPs). These will be considered “first stage” outcomes, which we will test to confirm and measure the extent to which the FCC program reached the intended beneficiaries. Second, there are final outcomes of primary interest.

Knowledge of, contact with, and services provided by LIPs

These outcomes come from the endline survey, reported by the primary household respondent. Section M (Support) of the endline survey asks a series of questions on the household’s knowledge of, contact with, and services provided by FCC local implementing partners (LIPs). In this context, we will examine three outcome variables:

- An indicator for a household having heard of the FCC-LIP (equal to 1 if answering “yes” to question M01, and 0 otherwise).
- An indicator for a household having been visited by a Case Care Worker (CCW) of the FCC-LIP (equal to 1 if answering “yes” to question M02, and 0 otherwise).
- An indicator for a household having been referred to by or received any services from the FCC-LIP. This indicator will be constructed from several questions in Section M, which asks about services received from non-government organizations (NGOs), and which organization provided these services. Specifically, this indicator will be equal to 1 if the respondent reports the LIP in response to *any* of the questions MA5, MA8, M09, M13, M20, M24, M28, M31, M34, M36, M39, M41, M42 (and 0 otherwise). Please see Appendix C for Section M of the endline survey for details on these questions.

Hypothesis P1: Assignment of a household to DEB status raises the knowledge of, contact with, and services provided by FCC local implementing partners (LIPs), compared to households in control communities.

Final outcomes of primary interest

We consider the two outcome variables that are directly observed by our project staff to be primary outcomes of interest. These outcomes are considered of primary interest because they are the main focus of the FCC program, in terms of objectives conveyed to World Education Inc./Bantwana by USAID, and by WEI/Bantwana to LIPs. Home visits by CCWs could affect HIV testing because LIP staff will be providing information about HIV and ART to households, and helping reduce household concerns over HIV-related stigma. School attendance could be affected by CCWs’ emphasis in home visits on the importance of child education, as well as by increased HIV testing leading to treatment and improved health for children and their caregivers.

- HIV testing: an indicator that at least one of a household's HIV testing coupons has been redeemed. This is a household-level variable equal to 1 if at least one of a household's incentive coupons is presented at the local health clinic for the HIV testing incentive payment before the 14-day deadline, and 0 otherwise. This variable will be created for all households.³
- School attendance: an indicator for a child attending school. This is an individual-level variable equal to 1 if a child is directly observed to be attending school by our project staff in an unannounced school visit, and 0 otherwise. This variable will be created for all school-age children (aged 6-17) listed in the *baseline* survey (so that conclusions will not be subject to possible endogenous changes in household composition).

Hypothesis P2: Assignment of a household to DEB status raises rates of HIV testing in households, and rates of school attendance among children in the household, compared to households in control communities.

Secondary hypotheses

A number of secondary hypotheses are of interest, related to comparison of impacts on non-DEB households, impacts measured using self-reported outcomes, mechanisms of impacts on DEBs, and spillovers from DEB to non-DEB households.

Impacts measured using self-reported outcomes

Outcomes highly related to the primary outcomes of interest (HIV testing and school enrollment) are also self-reported in the endline survey. We will examine these outcomes to gauge the extent of biases in self-reported data. We will estimate the effect of a household being a directly-enrolled beneficiary (DEB) of the FCC program, with all households in control communities as the control group.

If results differ from analyses based on corresponding directly-observed outcomes, we will base substantive conclusions and policy recommendations on the findings that use the directly-observed outcomes.

The outcomes are:

- HIV testing: an indicator that anyone in the household has been tested for HIV in the last 12 months. This is a household-level variable equal to 1 if at least one household member is reported to have had an HIV test in the last 12 months, and 0 otherwise. This variable will be created based on answers to endline survey questions household-level question MA4 (and sub-question MA6) and individual-level question K10 (and sub-question K11).
 - o MA4: Have you any household member been referred to take an HIV test during the past 12 months?
 - MA6: If yes, did anyone in the household take up the recommendation to be tested for HIV in the last 12 months?
 - o K10: To your knowledge, have you ever been tested for HIV?
 - K11: If yes, when was the most recent test? (1 = in the last 12 months, 2 = 12-23 months ago, 3 = more than 2 years ago)
- School attendance: an indicator for a child attending school. This is an individual-level variable equal to 1 if a child is reported to be attending school, and 0 otherwise. The value of the indicator will be determined based on the response to endline survey question A17. This variable will be created for all school-age children (aged 6-17) listed in the baseline survey.

Hypothesis S1: Assignment of a household to DEB status raises rates of self-reported HIV testing in households, and rates of self-reported school attendance among children in the household.

Impacts on secondary outcomes

³ The variable will be coded as zero for any household refusing incentive coupons, which we expect to be rare. Another rare case will be households with no-one eligible for coupons (because of everyone already knowing they are HIV positive or having been tested within the last three months); in this case the variable will be set to missing and the household will not be included in the analysis.

Certain outcomes are of secondary interest. We consider these secondary because they are less likely to be influenced by the FCC program. Some outcomes (such as adherence to antiretroviral medication) are relevant only for HIV positive individuals, and others (such as the asset index) would likely only be affected in households enrolled in certain FCC components (such as the village savings and loan or VSL program) that are expected to have relatively few participants. Life satisfaction is relevant for all households, but we consider it quite unlikely that the program will affect this outcome.

As in the primary analyses, we will estimate the effect of a household being a directly-enrolled beneficiary (DEB) of the FCC program, with all households in control communities as the control group.

The outcomes are:

- Life satisfaction: Question P1 from endline survey: “Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?” This is defined at the individual level for all adult respondents.
- Household asset index, defined as the first principal component of a vector of indicator variables for ownership of 14 assets (car, motorcycle, bicycle, radio, television, sewing machine, refrigerator, freezer, iron, bed, table, mobile phone, clock, and solar panel). This will be defined for all households.
- Health care utilization for individuals who self-report being HIV positive. This will be defined at the individual level for any individuals reported to be HIV positive in the endline survey.
 - a. Indicator for being on antiretroviral therapy (ART). This equal to 1 if the individual reported currently being on ART, and 0 otherwise, based on endline survey question K21 (“Are you currently taking antiretroviral medicines?”).
 - b. Indicator for having high ART adherence. This is equal to 1 if the individual is reported to have missed no doses in the last 30 days (perfect adherence), and 0 otherwise, based on endline survey question K23 (“How often did you miss doses over the last 30 days?”). This variable will be coded as zero for anyone not currently on ART.

Hypothesis S2: Assignment of a household to DEB status raises life satisfaction, household assets and ART adherence rates.

Impacts on secondary outcomes that are possible mechanisms

We will also measure impacts of the FCC program on outcomes in three groups or “families”: 1) HIV-related knowledge, 2) HIV-related stigmatizing attitudes, 3) other positive HIV-related attitudes, and 4) risky sexual behavior. These intermediate outcomes are all measured in the endline survey.

These outcomes are of interest in their own right, and in addition they may be mechanisms through which the program achieves its effects.

As in the primary analyses, we will estimate the effect of a household being a directly-enrolled beneficiary (DEB) of the FCC program, with all households in control communities as the control group.

The outcomes are as follows, by family. As relevant, we indicate specific component question numbers from the endline survey.

- *HIV-related knowledge.* Questions are indicators and are coded as 1 if answered correctly, and 0 otherwise. (Correct answers are in parentheses below, with additional detail as needed.)
 - o J03: Have you ever heard of an infection called HIV? (Yes)
 - o J05: Can HIV be transmitted from one person to another through sex behaviors? (Yes)
 - o JA9: Can HIV be transmitted from one person to another through blood contact? (Yes)
 - o J06: Can people reduce their chance of getting HIV by having just one uninfected sexual partner who has had no other sexual partners? (Yes)
 - o J06a: Can people reduce their chance of getting HIV by not having sexual intercourse at all? (Yes)
 - o J07: Can people get HIV from mosquito bites? (No)
 - o J07a: Can people get HIV from shaking hands with an infected person? (No)
 - o J07b: Can people get HIV from kissing an infected person? (No)
 - o J14: Can people get HIV from sharing food with a person who has HIV? (No)

- J15: Can people get HIV via witchcraft or other supernatural means? (No)
- J21: Can HIV be transmitted from a mother to her baby during pregnancy? (Yes)
- J22: Can HIV be transmitted from a mother to her baby during delivery? (Yes)
- J23: Can HIV be transmitted from a mother to her baby by breastfeeding? (Yes)
- J16: Is it possible for a person who looks healthy to have HIV? (Yes)
- J16a: Is it possible for a person who feels healthy to have HIV? (Yes)
- J08: Have you ever heard of a condom? (Yes)
- J09: Do you know where to buy condoms? (Yes)
- J10: Do you know where to obtain free condoms? (Yes)
- J11: Do you think people can reduce the risk of transmission of HIV if they use condoms whenever they have sex? (Yes)
- Indicator for knowing where one can get tested for HIV. Coded from question J24: Do you know of a place where people can go to get tested for HIV? (and answering Yes), and J25: If yes, where can people get tested for HIV? (correctly naming a nearby ART site).
- JA1: Do you know if there are any special medicines that a doctor or nurse can give a woman infected with HIV, to reduce the risk of mother-to-baby transmission? (Yes)
- J26: Is there an effective treatment for HIV? (Yes)
- J26a: If yes, do you know what the treatment is called? (Antiretroviral therapy, or ART)
- J27: Do you know of a place where people can receive treatment for HIV? (Yes)
- J29: Can HIV be cured? (No)
- JA5: Do you think treatment for HIV will be expensive at the local health center? (No)
- JA6: Do you think treatment for HIV at the local health center can help patients stay healthy? (Yes)
- JA7: Do you think treatment for HIV at the local health center can help patients live for as long as uninfected people? (Yes)
- JA8: Do you think treatment for HIV at the local health center can prevent HIV transmission? (Yes)
- JA13: For people infected with HIV, should they take medication even if they don't feel sick? (Yes)
- J28: If HIV is left untreated can it cause AIDS (deficiency of the immune system that can lead to severe infections and death)? (Yes)
- JA11: If not treated, how long do you think it takes for an HIV infected person to develop AIDS (deficiency of the immune system that can lead to severe infections and death)? (Exact answer is 10 years. Coded as correct if absolute difference between respondent's answer and 10 is below sample median in endline survey.)
- JA12: If not treated, how long can a person sick with AIDS survive? (Exact answer is 3 years. Coded as correct if absolute difference between respondent's answer and 3 is below sample median in endline survey.)
- *HIV-related stigmatizing attitudes.* Questions are indicators and are coded as 1 if answer reveals lack of HIV-related stigma, and 0 otherwise. (Answers revealing lack of stigma are in parentheses below, with additional detail as needed.)
 - J17: Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV? (Yes)
 - J18: If a member of your family got infected with HIV, would you want it to remain a secret? (No)
 - J19: If a member of your family became sick with AIDS would you be willing to care for them in your own household? (Yes)
 - J20: In your opinion, if a teacher has HIV but is not sick, should they be allowed to continue teaching at school? (Yes)
- *Other positive HIV-related attitudes.* Questions are indicators and are coded as 1 if answer indicates a "positive" HIV-related attitude, and 0 otherwise. (Answers considered "positive" are in parentheses.)
 - J13: Should children age 12-14 be taught about using a condom to avoid getting HIV? (Yes)
 - JA2: If a woman knows that her husband has an illness that is sexually transmitted, is it justified for her to ask her husband to use a condom in their relationship? (Yes)

- JA3: It is justified for a wife to refuse to have sexual relations with her husband if she knows that he has sex with other women? (Yes)
- *Sexual behavior*
 - L03: How many sexual partners have you had in your lifetime? (count)
 - L04: How many sexual partners have you had in the last 12 months? (count)
 - L05: Have any of your partners ever been tested for HIV? (1=yes, 0=no)
 - L06: Have you ever had sex with someone who you know to have HIV? (1=yes, 0=no)
 - L07: Do you currently own condoms? (1=yes, 0=no)
 - Indicator for “always uses a condom when having sex” (1=yes, 0=no). (Based on responding “all of the time” to question L08: How often do you or your partner use a condom when having sex? (1 = all of the time, 2 = most of the time, 3 = sometimes, 4 = never).)
 - Indicator for a man ever having had sex with a male partner (1=yes, 0=no). (Constructed for men only. Based on responding “yes” to question L09: I have to ask this of everyone. Do you have or have you ever had sex with a male partner? This includes your current partner (if you are married this is your spouse) as well as any past sexual partners.)
 - L11: Have you ever been paid in exchange for sex? (Payment can be in money or in other forms, such as goods.) (1=yes, 0=no)
 - L12: Have you ever paid someone in exchange for sex? (Payment can be in money or in other forms, such as goods.) (1=yes, 0=no)

Hypothesis S3: Assignment of a household to DEB status raises HIV-related knowledge, reduces HIV-related stigmatizing attitudes, increases other positive attitudes towards HIV, and reduces rates of risky sexual behavior, compared to households in control communities.

Impacts on not-directly-enrolled-beneficiary (non-DEB) households

For all primary and secondary hypotheses regarding the impact of a household having directly-enrolled beneficiary (DEB) status, we will also estimate the impact of being in an FCC treatment community but as a non-DEB households (not being assigned to being a directly-enrolled beneficiary or DEB). These will be impacts for households exposed to or participating in the FCC program at the “ambient” rate of program coverage in the population.

In each case, the outcome variables will be identical to the outcome variables examined for the hypothesis for DEB status. The causal (right hand side) variable of interest is non-DEB indicator, and comparison group is all OVCs in control communities.

For each prior hypothesis number related to impacts of DEB status, we append the suffix “-nonDEB” to indicate the corresponding hypothesis for impacts of non-DEB status. The corresponding non-DEB hypotheses to be explored are:

Hypothesis P1-nonDEB: Households who are in FCC communities but not assigned to directly-enrolled beneficiary (DEB) status will have higher knowledge of, contact with, and services provided by FCC local implementing partners (LIPs), compared to households in control communities.

Hypothesis P2-nonDEB: Households who are in FCC communities but not assigned to directly-enrolled beneficiary (DEB) status will have higher rates of HIV testing in households, and rates of school attendance among children in the household, compared to households in control communities.

Hypothesis S1-nonDEB: Households who are in FCC communities but not assigned to directly-enrolled beneficiary (DEB) status will have higher rates of self-reported HIV testing in households, and higher rates of self-reported school attendance among children in the household.

Hypothesis S2-nonDEB: Households who are in FCC communities but not assigned to directly-enrolled beneficiary (DEB) status will have higher life satisfaction, household asset indices, and ART adherence rates.

Hypothesis S3-nonDEB: Households who are in FCC communities but not assigned to directly-enrolled beneficiary (DEB) status will have higher HIV-related knowledge, lower HIV-related stigmatizing attitudes, higher rates of other positive HIV-related attitudes, and lower rates of risky sexual behavior, compared to households in control communities.

Spillovers

As mentioned in the introduction, one question of interest is **Question 2 (spillovers)**: given that not all households in a community directly benefit from the program, to what extent do impacts spill over from directly-affected households to others that are geographically or socially proximate? We consider this a question of secondary interest because it is predicated on positive direct effects on directly-enrolled beneficiaries (DEBs) (*Hypotheses P1 and P2*).

The outcomes of interest for this analysis are the objective measures of HIV testing and school attendance (identical to those associated with *Hypothesis P2*).

Right-hand-side variables of interest are measures of social and geographic proximity to DEBs. We define and discuss these proximity measures in Section 3 (Empirical Analysis) below.

Hypothesis S4: Geographic and social proximity to DEB households leads non-DEB households to have higher HIV testing and school attendance rates.

Impacts on intermediate outcomes (mechanisms)

Another question of interest is **Question 3 (mechanisms)**: through what intervening mechanisms do direct and spillover program effects operate? Our primary approach to this investigation is to implement additional treatments immediately after the endline survey (the Randomization Stage 3 treatments). As described above, we will implement treatments providing information about HIV, information about ART, and information to reduce concerns about HIV-related stigma. These treatments will be randomly assigned at the household level.

The outcome of interest will be the objective measure of HIV testing (incentive coupon redemption) at the household level, as described above relating to *Hypothesis P2*. (This is the only outcome measure that will be available to the study after the endline survey.)

We will estimate the causal impacts of the Randomization Stage 3 treatments on HIV testing, and the extent to which their effects vary according to a household's treatment status (DEB, non-DEB, and control). If these treatments have less impact on HIV testing for treated than in control households, we will take this as evidence that part of the impact of the FCC program on testing occurs via these mechanisms.

Hypothesis S5: The Randomization Stage 3 treatments (information about HIV, information about ART, and information to reduce concerns about HIV-related stigma) have positive effects on rates of HIV testing.

Hypothesis S6: The Randomization Stage 3 treatments (information about HIV, information about ART, and information to reduce concerns about HIV-related stigma) have smaller effects (in absolute value) on rates of HIV testing among DEB households than among households in control communities.

We will also examine whether the effects of the Randomization Stage 3 treatments on HIV testing differ for non-DEB households in treatment communities, compared to households in control communities.

Hypothesis S6-nonDEB: The Randomization Stage 3 treatments (information about HIV, information about ART, and information to reduce concerns about HIV-related stigma) have smaller effects (in absolute value) on rates of HIV testing among non-DEB households than among households in control communities.

C. Data Sources

Key data sources are a baseline survey, an endline survey, directly observed HIV testing and school attendance, and administrative records from schools. We describe each in turn.

Baseline survey

A baseline survey was administered to define a sample of households and individuals to follow over time through the upcoming endline survey, and to measure baseline geographic and social proximity between households (for analysis of spillovers).

The target population of this study is OVCs and the households in which they live. OVC households were identified via door-to-door enumeration of households with a predefined list of questions to identify orphans and vulnerable children. Due to the sensitive nature of such questions, the protocol for identifying OVCs and their households was designed in close consultation with FCC program local implementing partners and field-tested to ensure cultural acceptance and recognition of cultural sensitivities.

Within both treatment and control communities, the baseline household data collection proceeded in several stages. First, 120 households were selected for administration of a vulnerability assessment (VA), whose purpose was to identify OVC households (intended beneficiaries of the FCC program). In communities surrounding eligible schools, households were selected for VAs using random-route sampling.⁴ The VA consisted of a short set of questions to determine the household's OVC status. Households were defined as OVC households if any of the following conditions were true: a grandparent was head of the household (with no parents present); the ratio of children to adults was greater than four; at least one school-aged child was not attending school; the household ate fewer than two meals per day; the household goes some days without food; the household has illegal income or no income; the household has a chronically ill member, an HIV infected member, or a member receiving anti-retroviral therapy (ART); there are orphans in the household (one or both parents deceased); or an adult died of a chronic illness in the last five years.^{5,6}

The second step was to select households for administration of the household baseline survey. Within the set of OVC households in a community (typically numbering 80-90), 40 were randomly selected as baseline survey households.⁷ The household survey asked a comprehensive set of questions at household and individual levels on demographics, health (morbidity, mortality, and child anthropometric measurements), schooling, assets, income, labor supply, migration, financial access (credit and savings), and financial decision-making. It also included a comprehensive set of questions on beliefs about HIV, HIV testing and treatment, and sexual behavior.

All surveys were conducted in the main local languages spoken in the study districts by a Mozambican survey research firm under the supervision of the co-authors. Survey respondents include a primary adult (aged above 18) respondent for household-level questions and other adult household members for sections (such as on health and sexual activity) with individual responses. For children (aged 0-18), their parent or guardian was asked to answer health questions on their behalf.

After the completion of baseline household surveys in study communities, a final stage of data collection was carried out by independent auditors, who revisited all households who had been administered baseline surveys. Auditors' first role was to check for fraud on the part of survey staff, confirming that households were actually surveyed and re-administering a randomly-selected subset of the baseline survey questions to check for accuracy. The second role of auditors was to field a social network survey on households' links with other surveyed households in the community (questions on contacts with whom respondents share information on health, finances, and agriculture). These social network data will be used to understand spillovers from households randomly assigned to be directly enrolled in the FCC program (Randomization Stage 2).

⁴ From the focal school in each of 76 study communities, interviewers were given a starting point from which they followed routing instructions that defined travel directions and selection of households to interview. Directions were randomly assigned, as were distances between successive surveyed households. This procedure resulted in households distributed as far as two kilometers from the focal school in each community.

⁵ We administered vulnerability assessment (VA) surveys to 10,056 households. Of these, we classified 71.7% as OVC households.

⁶ This definition was agreed upon with World Education/Bantwana and is consistent with PEPFAR definitions of OVC.

⁷ Among the non-OVC households, 20 were also selected for inclusion in the baseline survey sample. Due to budget constraints, we do not plan to include these non-OVC households in the endline survey.

Household survey data collection began in May 2017 and concluded in March 2018. FCC program activities began in treatment communities in the first quarter of 2017, so the household data collection is in principle not prior to treatment. That said, most FCC program activities in 2017 were related to program set-up and some pilot program enrollment, with most beneficiaries expected to be enrolled in 2018 and beyond. We can confirm in our baseline data (in statistics reported below) that there is no statistically significant difference in knowledge of the FCC program local implementing partner (LIP) between treatment and control communities. Other key outcome variables are also balanced between treatment and control groups at baseline. We therefore consider the baseline sample to be a sample of households who are not subject to selection biases. The baseline sample therefore constitutes a valid sample that we will follow over time to see if differences emerge as a result of the FCC program.

Endline survey

The endline household survey will be administered from March to June 2019. The endline survey will provide measurements of a rich set of intermediate and final outcomes for estimation of treatment effects of the FCC program. Communities will be surveyed in the same order they were administered the baseline, and staging will ensure that at least 12 months will have passed since the baseline survey.

All OVC households (40 from each community) originally surveyed at baseline will be surveyed again at endline. In addition, to improve statistical power to detect treatment effects, we will supplement this sample with 20 OVC households not originally surveyed at baseline, who were only administered the vulnerability assessment (VA) survey. These 20 additional households will be randomly selected from among the OVC households in the VA-only sample.⁸

There will thus be a total of 4,560 households surveyed at endline (60 households per community). Each endline household survey is anticipated to take 40 minutes to administer on average.

As in the baseline survey, at least 10% of surveys in each community will be audited (households will be re-visited within two weeks and a subset of questions asked again by a different surveyor) to check for data quality and minimize fraud. As in the baseline, survey staff will be fully aware that auditing will be taking place, but will have no direct contact with auditors, so there should be strong ex-ante incentives for data quality and disincentives for fraud.

Replacement of Attriting Households

In addition to the list of households targeted for the endline survey in each community, we will also predefine a back-up randomly-ordered list of households (among remaining OVC VA-only households) with which to replace any of the originally-targeted households who cannot be or refuse to be surveyed at follow up.

Direct measures of HIV testing and schooling outcomes

The household- and individual-level outcome variables in the endline survey are all self-reported. With self-reported measures, there are concerns about reporting bias. In particular, there is a worry that those in the treatment group will tend to falsely overstate outcomes in the direction of being more “compliant” with expectations for HIV testing or school attendance. We will therefore also measure two key outcomes (HIV testing and school attendance) via direct observation of behavior. These measures will supplement survey self-reported measures. If estimated treatment effects point in the same direction for the survey-reported and directly-observed outcomes, this can improve confidence that results based on the survey-reported outcome represents true changes in behavior, rather than reporting bias.

HIV Testing

We will supplement survey-reported HIV testing rates with directly-observed HIV testing at health clinics. At the time of the endline survey, our survey team will recommend that individuals in the

⁸ In control communities, the random selection will be among the VA-only OVC households. In treatment communities, the 20 VA-only DEB households (themselves originally randomly selected in Randomization Stage 2) will be the ones additionally included in the endline survey.

household be tested for HIV (if they have not had a test performed within the past three months) at a specified local health clinic within the next 14 days. To allow tracking of those who follow through with testing, households will be given coupons redeemable for a small financial incentive at the health clinic after having the HIV test. Coupons would have a unique code for each household, allowing us to track redemption of the coupons.⁹ This will be done in all households, whether in treatment or control communities, and irrespective of FCC enrollment status. Kranzer et al (2017) successfully implemented this approach to measuring HIV testing rates in neighboring Zimbabwe.

An indicator for at least one of a household's coupons being used (indicating at least one household member had an HIV test in the 14-day window) will be our directly-observed HIV testing outcome variable. Because this outcome represents a real, administratively recorded health behavior, it avoids potential reporting biases associated with survey-reported HIV testing. Conceptually, it captures a household's *receptiveness to a recommendation to be HIV tested*.

School Attendance

In addition to self-reported data on school participation by children, we will also measure school participation directly. During the baseline phase of the study, we collected full names of all children in study households. Households signed consent forms allowing the study team to monitor children's health and schooling outcomes at schools and health clinics. We will seek to measure current school attendance rates of all children enumerated in the baseline survey.

We will measure school attendance (physical presence of children in school) during unannounced school visits by our research project staff from March to July 2019. Project staff will visit schools in study communities to check attendance rates of specific school-aged children who were listed in the baseline survey in their community.¹⁰ (Kremer and Miguel (2004) take this approach to study schooling impacts of deworming in Kenya.) We will also measure school enrollment (presence of children in school registration records), but school enrollment will not be a primary outcome variable.

Administrative Data

We will also use administrative data from the focal school in each study community to provide additional insight into program impacts. In each school, we collect data on school finances (budget and expenditures), and on counts of enrolled students. Enrollment data will be based on principal reports, as well as our own counts of students recorded in physical (paper) classroom record books. These data will be used to calculate total student enrollment counts, to gauge the impact of FCC treatment on total school enrollment.

3. Empirical Analysis

Statistical methods

Hypotheses will be tested using regression analyses. Regression equations specified below will be estimated using ordinary-least-squares, with standard errors clustered at the level of 76 communities (Moulton 1986).

Respondents will be allowed to skip any survey question they choose, and can also opt out of receiving incentive coupons for HIV testing, so some outcomes will have missing values. For each

⁹ We will give households as many coupons as needed, for however many individuals do not know their status or report being HIV negative but were tested more than three months in the past. The coupon would have to be presented at the health clinic to receive the incentive. In the informed consent process, households will be informed of this invitation to be tested for HIV, that the unique code on the coupon would allow the study to know if it was redeemed, and of controls in place to ensure the confidentiality of the coupon redemption data. We will allow study participants to opt-out of being offered coupons, and still remain in the study. In the rare case of a household in which all individuals are reported to be HIV positive in the survey, the recommendation to undergo HIV testing will not be extended and the coupons not offered.

¹⁰ In cases where the child could potentially be attending one among multiple study schools, we will check the student's attendance at all possible study schools.

primary and secondary hypothesis, we will test whether the rate of missing values is affected by the relevant right-hand-side causal variables of interest. In cases where the rate of missing values is affected by a causal variable of interest, to address potential selection bias we will calculate Lee (2009) bounds on the treatment effect.

Nearly all outcome variables of interest are indicator (dummy) variables, so outliers will typically not be an issue. There is only one continuous outcome variable, the asset index (associated with *Hypotheses S2* and *S2-nonDEB*). For this outcome, we will test robustness of conclusions to winsorising the outcome at the 99th percentile (replacing values above the 99th percentile with the 99th percentile value).

Statistical model

Impacts of DEB and non-DEB status

To estimate the impact of directly-enrolled beneficiary (DEB) and non-DEB status, the regression equation will be as follows:

$$(1) \quad Y_{ijs} = \alpha + \beta B_{ijs} + \lambda N_{ijs} + \gamma_s + \varepsilon_{ijs}$$

Y_{ijs} is the post-treatment outcome for individual or household i in community j in stratification cell (matched pair) s . B_{ijs} is the indicator for a household being randomly assigned to directly-enrolled beneficiary (DEB) status (1 if DEB, and 0 if not), while N_{ijs} is the indicator for a household being randomly assigned to non-directly-enrolled beneficiary (non-DEB) status in a treatment community (1 if non-DEB, and 0 if not). (Both variables are equal to zero for anyone in a control community. In other words, B_{ijs} and N_{ijs} simply partition households in treatment communities into two mutually exclusive subgroups.) γ_s is a fixed effect for stratification cell s .¹¹ ε_{ijs} is a mean-zero error term.

The coefficient β is the intent to treat (ITT) effect of assignment to DEB status (high probability of home visit by a CCW), while the coefficient λ is the corresponding effect of assignment to non-DEB status (receiving a CCW home visit at the low ambient rate in the community). The latter effect, λ , would not necessarily be zero, for two reasons. First, some fraction of these individuals will be enrolled, due to general penetration of the program into communities. Second, there will be spillovers from individuals enrolled in the FCC program. Random assignment of DEB status allows interpretation of these coefficients as causal effects.

The sample for this regression will be all individuals or households in treatment communities (whether DEB or non-DEB), and all individuals or households in control communities.

This regression will be used to test hypotheses related to the impact of random assignment to DEB status and non-DEB status within treatment communities.

Hypothesis tests regarding the impact of DEB status (*Hypotheses P1, P2, S1, S2, S3*) will refer to coefficient β in this regression for the relevant outcome variable.

Hypothesis tests regarding the impact of non-DEB status (*Hypotheses P1-nonDEB, P2-nonDEB, S1-nonDEB, S2-nonDEB, S3-nonDEB*) will refer to coefficient λ in this regression for the relevant outcome variable.

Spillovers from directly-enrolled beneficiary (DEB) households

We are also interested in spillovers from direct beneficiary households (DEBs) to non-direct beneficiaries (non-DEBs). This analysis seeks evidence of spillovers via geographic proximity and social network ties.

We will use the following equation that builds on equation (1) to estimate spillovers:

$$(2) \quad Y_{ijs} = \alpha + \delta B_{ijs} + \sigma N_{ijs} + \nu \text{EnrollS}_{ijs} + \mu \text{EnrollDist1}_{ijs} + \zeta \text{EnrollDist2}_{ijs}$$

¹¹ Inclusion of the stratification cell fixed effects reduces standard errors by absorbing residual variation. Stratification is at the level of 38 matched pairs of communities within which treatment status was randomly assigned (so stratification cell fixed effects are equivalent to matched pair fixed effects).

$$\begin{aligned}
& + \omega S_{ijs} + \kappa Dist1_{ijs} + \lambda Dist2_{ijs} \\
& + \gamma_s + \varepsilon_{ijs}.
\end{aligned}$$

Compared to regression equation (1), regression equation (2) adds estimates of spillover impacts on households of being socially and geographically proximate to other households that were directly enrolled in the FCC program. $EnrollS_{ijs}$ is a measure of the extent to which members of one's social network were randomly assigned to direct program enrollment.¹² $EnrollDist1_{ijs}$ is the number of directly-enrolled beneficiaries within a "close" radius of household i , while $EnrollDist2_{ijs}$ is similar but for direct beneficiaries in an "intermediate" distance.¹³

In this regression specification, it is also important to control for variables representing the household's general social connectedness and geographic proximity to other surveyed households, because we would expect that households with larger social networks or in more densely-populated neighborhoods to have more directly-enrolled individuals in their social networks or in geographic proximity. Failing to control for such variables would lead to biased estimates of the coefficients on $EnrollS_{ijs}$, $EnrollDist1_{ijs}$, and $EnrollDist2_{ijs}$. S_{ijs} is a measure of the extent to which members of one's social network are included in the survey sample. $Dist1_{ijs}$ is the number of surveyed households within a "close" radius of household i ; $Dist2_{ijs}$ is similar but for surveyed households in an "intermediate" distance.

The sample for this regression will be all individuals or households in treatment communities (whether DEB or non-DEB), and all individuals or households in control communities.

In equation (3), the coefficients on $EnrollS_{ijs}$, $EnrollDist1_{ijs}$, and $EnrollDist2_{ijs}$ quantify particular types of spillover effects. The coefficient ν on $EnrollS_{ijs}$ isolates spillovers that operate through social network connections. It represents the impact of having additional social network members randomly assigned as DEBs.

Spillovers operating via geographic proximity are revealed in the coefficients on the interaction terms with the $EnrollDist1_{ijs}$ and $EnrollDist2_{ijs}$ variables.¹⁴ The coefficient on μ on $EnrollDist1_{ijs}$ is the impact of having more geographically close individuals randomly assigned as DEBs. We would expect this coefficient to be larger in magnitude than the coefficients ζ on the term corresponding to "intermediate" distance. These spillover coefficients are all credibly interpreted as causal effects. Because direct enrollment in FCC is randomly assigned, the extent to which households have directly-enrolled households in their social network or geographically proximate is also random.¹⁵

Hypothesis tests regarding spillovers from DEB to non-DEB households (*Hypothesis S4*) will refer to coefficients ν , μ , and ζ in this regression for the relevant outcome variable.

Analysis of mechanisms using Randomization Stage 3 treatments

Main effect of information and anti-stigma treatments

¹² Our social network data indicates that the number of social network members enrolled as direct beneficiaries will typically be in the single digits. We therefore expect to specify this variable simply as the count (number) of social network members enrolled as direct beneficiaries. The number of social network members who are DEBs has mean 0.158 and standard deviation 0.590.

¹³ The definition of "close" and "intermediate" distances are as follows, with mean and standard deviation of the number of DEBs: close 0-200 meters (mean 1.93, std.dev. 3.03), intermediate 200-500 meters (mean 6.03, std. dev. 7.14). "Far" distance would be the excluded or reference category.

¹⁴ Measuring geographic spillovers in this manner corresponds to the widely-emulated method used in Miguel and Kremer (2004) to capture health spillovers of deworming in Kenya.

¹⁵ It is reasonable to presume that spillover effects differ between households who themselves were and were not randomly assigned to direct FCC enrollment. In particular, we might expect spillover impacts to be larger for households not directly enrolled. We will also investigate such heterogeneity in the magnitude of spillovers. In exploratory analyses, we would estimate regression specifications that add interaction terms with the $EnrollS_{ijs}$, $EnrollDist1_{ijs}$ and $EnrollDist2_{ijs}$ variables, on the one hand, with the indicators B_{ijs} and N_{ijs} on the other. Comparison of corresponding coefficients on the B_{ijs} and N_{ijs} interaction terms would reveal whether spillovers had greater impact among the directly-enrolled compared to the non-directly-enrolled.

The purpose of the Randomization Stage 3 treatments is to shed light on mechanisms through which the FCC program has its effects. That said, the impact of the Randomization Stage 3 treatments themselves is of interest.

The main effect of these treatments is estimated using the following modification of equation (1):

$$(3) \quad Y_{ijs} = \alpha + \beta B_{ijs} + \lambda N_{ijs} \\ + \rho \text{InfoHIV}_{ijs} + \tau \text{InfoART}_{ijs} + \pi \text{Anti-Stigma}_{ijs} \\ + \gamma_s + \varepsilon_{ijs}$$

Y_{ijs} is the post-treatment outcome for household i in community j in stratification cell (matched pair) s . The outcome variable for this analysis is the objective (coupon-redemption-based) measure of household HIV testing. B_{ijs} , N_{ijs} , γ_s , and ε_{ijs} are as in previous regressions.

InfoHIV_{ijs} is an indicator equal to one if a household was randomly assigned to receiving the treatment providing information on HIV/AIDS, and zero otherwise. InfoART_{ijs} and AntiStigma_{ijs} are defined similarly, but for the randomly-assigned ART information and anti-stigma treatments, respectively.

The sample for this analysis will be all households in treatment communities (whether DEBs or non-DEBs) and all households in control communities.

The coefficients ρ , τ , and π are the intent to treat (ITT) effects of household assignment to the HIV information treatment, the ART information treatment, and the anti-stigma treatment, respectively. These can be interpreted as causal effects because each is randomly assigned.

The hypothesis tests regarding the impact of the Randomization Stage 3 treatments (*Hypothesis S5*) will refer to coefficients ρ , τ , and π in this regression.

Mechanisms of FCC program impacts

Analyses of mechanisms of the FCC program using the Randomization Stage 3 treatments will be conducted using the following regression equation, which is a modification of equation (3):

$$(4) \quad Y_{ijs} = \alpha + \beta B_{ijs} + \lambda N_{ijs} \\ + \rho \text{InfoHIV}_{ijs} + \tau \text{InfoART}_{ijs} + \pi \text{Anti-Stigma}_{ijs} \\ + \delta B_{ijs} \text{InfoHIV}_{ijs} + \theta B_{ijs} \text{InfoART}_{ijs} + \omega B_{ijs} \text{AntiStigma}_{ijs} \\ + \sigma N_{ijs} \text{InfoHIV}_{ijs} + \phi N_{ijs} \text{InfoART}_{ijs} + \eta N_{ijs} \text{AntiStigma}_{ijs} \\ + \gamma_s + \varepsilon_{ijs}$$

This regression is similar to equation (3), but adds interaction terms between B_{ijs} and each of the Randomization Stage 3 treatments, as well as interaction terms between N_{ijs} and each of the Randomization Stage 3 treatments. These interaction terms reveal whether the effects of the Randomization Stage 3 treatments differ for DEB and non-DEB households, compared to the effect in control communities. Because of the inclusion of these interaction terms, the coefficients ρ , τ , and π now represent the ITT effects of assignment to the treatments *for households in control communities*.

The coefficients δ , θ , and ω represent the difference in the ITT effect of the Randomization Stage 3 treatments *for DEB households*, compared to the effect for households in control communities. The hypothesis tests regarding how impacts of the Randomization Stage 3 treatments differ for DEB households (*Hypothesis S6*) will refer to these coefficients.

The coefficients σ , ϕ , and η represent the difference in the ITT effect of the Randomization Stage 3 treatments *for non-DEB households*, compared to the effect for households in control communities. The hypothesis tests regarding how impacts of the Randomization Stage 3 treatments differ for non-DEB households (*Hypothesis S6-nonDEB*) will refer to these coefficients.

Other exploratory evidence on mechanisms

It was infeasible to randomly assign different communities to differently-composed packages or bundles of the FCC program subcomponents. Such random assignment would be required to credibly measure the causal effect of different program elements, revealing the subcomponent mechanisms through which the program has its effects. In this study, in the absence of such random assignment of

program subcomponents, our aim is to provide suggestive or observational (non-causal) evidence on program subcomponents through which the FCC program operates. The patterns we observe in the data, even though not causally well-identified, can provide guidance and suggest foci for future studies that do randomly assign different program subcomponents.

Our approach on this front proceeds in two steps. First, we will measure household and individual participation in FCC subcomponents. Subcomponents for which we will measure participation include: education subsidies for girls; health and nutritional assessments for children; membership in village savings and loan (VSL) groups; contact with community health workers and volunteers for referrals and follow up to health clinics; and child participation in programs such as Child Rights Clubs and Youth Economic Strengthening clubs. Those subcomponents that achieve the highest levels of penetration into the study population will be the strongest candidates for driving the program's overall effects. Regressions in the form of equation (1) will be used to estimate the impact of DEB and non-DEB status on participation in FCC subcomponents.

Second, we will conduct exploratory subgroup analyses suggested by the previous two steps. For example, if treatment status has a substantial effect on child participation in Child Rights Clubs (CRCs), regression analyses based on equation (1) can be run, where the dependent variable is a final outcome of interest (say, child school attendance), and where the treatment indicator is interacted with an indicator variable for participation in a CRC. Such an analysis can reveal whether higher treatment impacts on child schooling are associated with participation in a CRC. If this turns out to be the case, it can provide justification for a future study prospectively randomizing CRC participation, to more credibly estimate the effect of CRC participation.

Multiple outcome and multiple hypothesis testing

In all cases where we adjust p-values to control the false discovery rate, we will use the method of List, Shaikh and Xu (2016).

Primary hypotheses and primary outcomes

Only one treatment is of primary interest: household random assignment to being a directly-enrolled beneficiary (DEB) of the FCC program.

Outcomes related to services provided via the FCC local implementing partners (LIPs) will be considered "first stage" outcomes, which we will test to confirm and measure the extent to which the FCC program reached the intended beneficiaries. When we assess *Hypothesis P1*, we will apply a multiple hypothesis test correction to the three "first stage" variables (indicators for knowledge of, contact with, and services provided by FCC local implementing partner).

We consider the two outcome variables that are objectively measured (observed and recorded by our project staff) to be primary outcomes of interest:

- 1) the measure of HIV testing based on redemption of testing incentive coupons, and
- 2) school attendance of children directly observed in schools by our staff in unannounced visits.

When we assess *Hypothesis P2*, we will apply a multiple hypothesis test correction across the regression coefficient estimates for these two variables.

Secondary hypotheses and outcomes

We have a number of secondary hypotheses and associated outcomes. These secondary hypotheses have to do with FCC program impacts in households that are not directly-enrolled beneficiaries (non-DEBs), mechanisms through which the FCC program achieves its effects, and spillovers from DEB to non-DEB households. Because these are secondary and exploratory analyses, the multiple hypothesis test corrections will be conducted within families of outcomes associated with particular secondary hypotheses, and will not be integrated with the multiple hypothesis test corrections for the primary hypotheses.

Aside from the multiple hypothesis test corrections listed below, any other analyses conducted will be considered exploratory and therefore will not be subject to multiple hypothesis test corrections.

For the secondary hypotheses, we will apply multiple hypothesis test corrections in the following groups of coefficients:

Hypothesis S1: coefficients on DEB status across regressions for survey-reported HIV testing and school attendance.

Hypothesis S2: coefficients on DEB status across regressions for survey-reported individual life satisfaction, household asset index, and two measures of individual ART adherence.

Hypothesis S3: coefficients on DEB status across regressions within each of the following families (but not across families): a) HIV-related knowledge, b) HIV-related stigmatizing attitudes, and c) sexual behavior.

Hypothesis S4: the coefficient on social proximity to DEB households and the coefficient on the indicator for the closest geographic proximity to DEB households.

Hypothesis S5: the three coefficients on the HIV information, ART information, and anti-stigma treatment indicators.

Hypothesis S6: the three coefficients on the HIV information, ART information, and anti-stigma treatment indicators, plus the three coefficients on each of these interacted with DEB status.

Hypothesis P1-nonDEB: coefficients on non-DEB status across the three regressions for outcomes related to the knowledge of, contact with, and services provided by FCC local implementing partner.

Hypothesis P2-nonDEB: coefficients on non-DEB status across regressions for objectively-measured HIV testing and school attendance.

Hypothesis S1-nonDEB: coefficients on non-DEB status across regressions for survey-reported HIV testing and school attendance.

Hypothesis S2-nonDEB: coefficients on non-DEB status across regressions for survey-reported asset index and two measures of ART adherence.

Hypothesis S3-nonDEB: coefficients on non-DEB status across regressions within each of the following families (but not across families): a) HIV-related knowledge, b) HIV-related stigmatizing attitudes, and c) sexual behavior.

Hypothesis S6-nonDEB: the three coefficients on the HIV information, ART information, and anti-stigma treatment indicators, plus the three coefficients on each of these interacted with non-DEB status.

Heterogeneous Effects

Aside from heterogeneity in the effects of the HIV information, ART information, and anti-stigma treatments (*Hypothesis S6*), we do not anticipate any other estimation of treatment effect heterogeneity.

4. List of References

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5. Appendices

Appendix A: Home Visit Guide

Appendix B: Details of Randomization Stage 3 Treatments

Appendix C: Section M of Endline Survey

PROJECTO FORÇA À COMUNIDADE E ÀS CRIANÇAS



PASSOS DE UMA VISITA DOMICILIÁRIA

CARTÕES PARA VISITAS
DOMICILIÁRIA

Adaptado & Reproduzido Por:



USAID
FROM THE AMERICAN PEOPLE



1. SAÚDE a família, APRESENTE-SE e EXPLIQUE o objectivo da visita (caso seja primeira visita).

2. SAÚDE a família. Convide a todos presentes a juntar-se à visita.

3. PERGUNTE se a família tem alguma preocupação urgente por exemplo Será que há um membro da família que precisa uma atenção médica

- Todos membros da família estão seguros
- Todas pessoas da família comeram? Tem comida na família?
- Será que há crianças que sofre de abuso ou negligencia?
- Será que as crianças tem roupa ou mantas?

4. FAÇA O SEGUIMENTO da visita passada. Partilhe o OBJECTIVO da visita do dia.

5. OBSERVE E PERGUNTE sobre as práticas relevantes. Procure saber o que DIFICULTA a responder às necessidades da criança.

6. ELOGIE o cuidador pelas boas práticas e acções realizadas.

7. ESCOLHE e partilhe 1-2 mensagens, usando os desenhos relevantes.

8. AJUDE AO CUIDADOR A PRATICAR una actividade relevante. ELOGIE pelo esforço.

9. EXPLIQUE a importância da actividade. Ajude a incluir essa actividade na ROTINA DIÁRIA da família.

10. REFIRA E/OU ACOMPANHE AOS SERVIÇOS se for preciso.

11. AVALIE o plano de acção junto com a família em cada segunda visita.

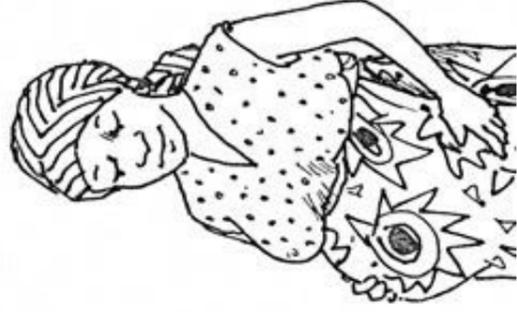
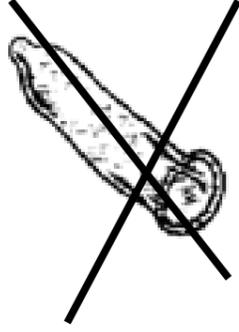
12. AGRADEÇA, e concordem sobre a próxima visita. Faça o REGISTO dos serviços prestados.

SAÚDE (1) - PREVENIR HIV

COMO SE APANHA HIV:



SEXO SEM PROTECÇÃO
COM UMA PESSOA INFECTADA

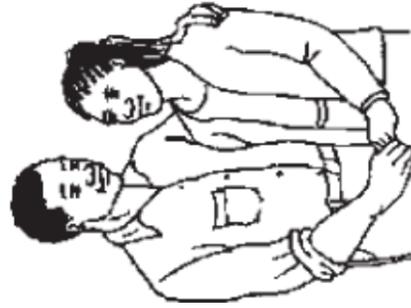


DA MÃE PARA O BEBÉ, DURANTE A
GRAVIDEZ, PARTO, OU AO DAR PEITO



CONTACTO COM SANGUE
DUMA PESSOA INFECTADA

COMO NÃO SE APANHA HIV:



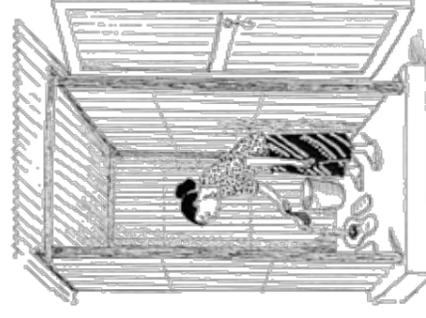
ABRAÇAR, BEIJAR
OU TOCAR



DORMIR NA MESMA CAMA



PARTILHAR ROUPA, PRATOS, E COMIDA.
USAR A MESMA LATRINA.

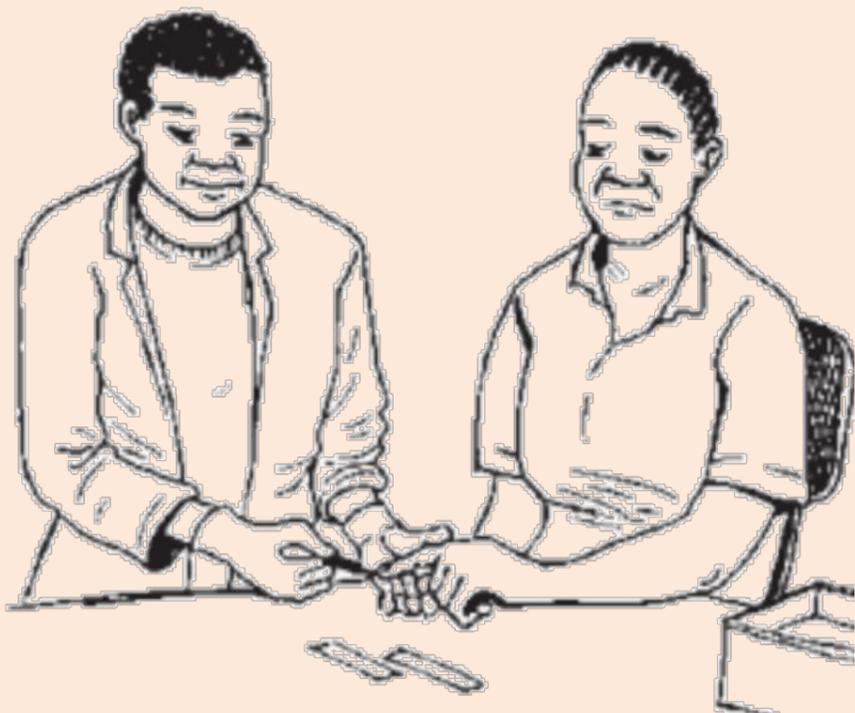


CUSPİR OU TOSSİR



QUALQUER PESSOA PODE APANHAR HIV, SE NÃO SE PREVENIR.

SAÚDE (2) – FAZER TESTE DE HIV E REVELAR O SEU ESTADO



**FAÇA O TESTE, PARA SABER O SEU ESTADO.
REPITA DAQUI AS 3 MESES PARA CONFIRMAR**



**SE A MÃE FOR SEROPOSITIVA, LEVE O BEBÉ
DE 1 MÊS PARA FAZER O TESTE DE HIV.**



**REVELE O SEU ESTADO NA FAMÍLIA E DISCUTAM O CAMINHO A SEGUIR.
AJUDE A CRIANÇA A PARTIR DE 6 ANOS A SABER O ESTADO DELA.
Evitar estigmatizar e discriminar pessoas que estão vivendo com HIV**

Fonte: MISAU/UNESCO, 2011; Where there is no artist

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**FAÇA CONSULTAS MENSAIS DE TARV,
E TOME COMPRIMIDOS CADA DIA A MESMA
HORA, DEPOIS DUMA REFEIÇÃO.**



**LEVE A CRIANÇA A CONSULTA TARV OU A
CONSULTA DA CRIANÇA EM RISCO.
AJUDE A CRIANÇA A TOMAR MEDICAÇÃO A
MESMA HORA CADA DIA, DEPOIS DUMA
REFEIÇÃO.**



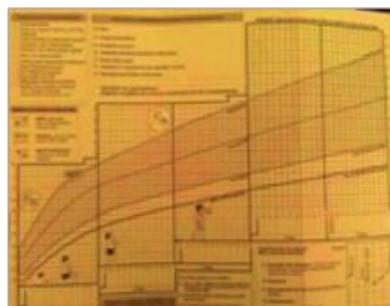
**SE FOR SEROPOSITIVA, VOCÊ PODE FICAR
DEPRIMIDA, OU SEM VONTADE.
PODE SER MAIS DIFÍCIL PARA SI,**



**PROCURE TER PELO MENOS UMA BOA AMIGA OU
AMIGO QUEM LHE DÁ FORÇA E CORAGEM.**

CUIDAR DA CRIANÇA.

SAÚDE (4) - PREVENIR AS DOENÇAS COMUNS



ASSEGURE QUE A SUA CRIANÇA RECEBA VACINAS, VITAMINA A E DESPARASITANTE



PREVINA A MALÁRIA USANDO A REDE MOSQUITEIRA



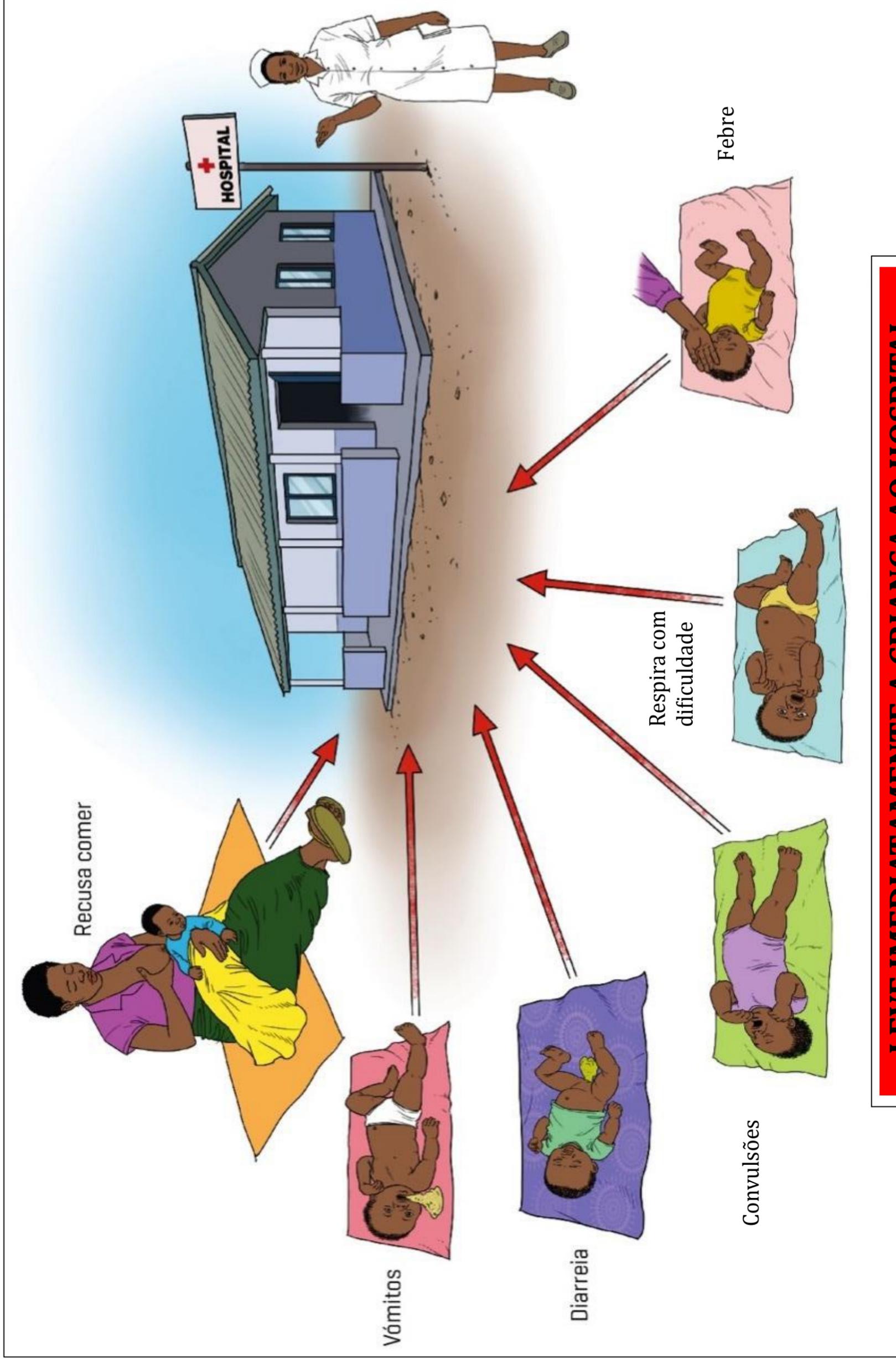
USE SOMENTE A ÁGUA FERVIDA OU LIMPA PARA BEBER. TAPE O BIDÃO E USE A CANECA.



LAVE AS MÃOS DA CRIANÇA COM FREQUÊNCIA

Adaptado & Reproduzido Por:

SAÚDE (5) – AGIR EM CASO DE SINAIS DE PERIGO NA CRIANÇA DE 0 A 5 ANOS



LEVE IMEDIATAMENTE A CRIANÇA AO HOSPITAL



Alimentação equilibrada

Alimentação equilibrada

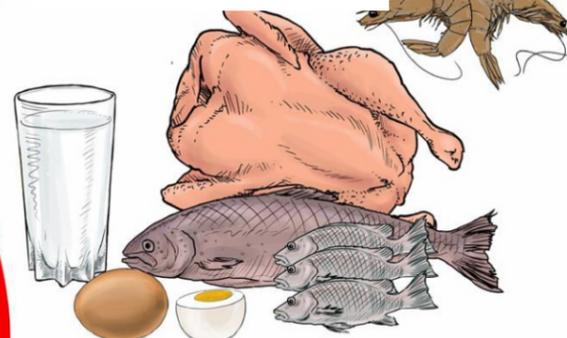
ALIMENTAÇÃO (1) - COMER OS 4 TIPOS DE ALIMENTOS EM CADA DIA



OS QUE DÃO FORÇA



OS QUE FAZEM O CORPO CRESCER



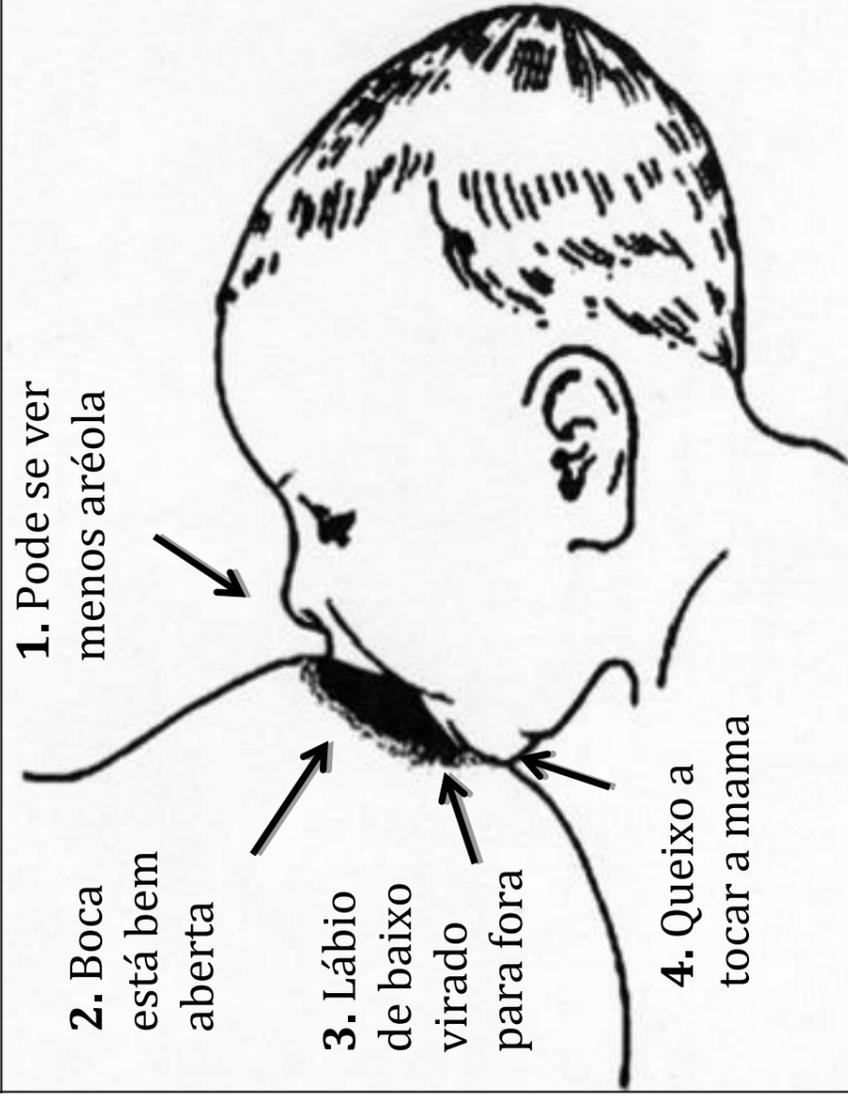
OS QUE DÃO MUITA FORÇA MESMO (dar em poucas quantidades!)



OS QUE PROTEGEM DAS DOENÇAS

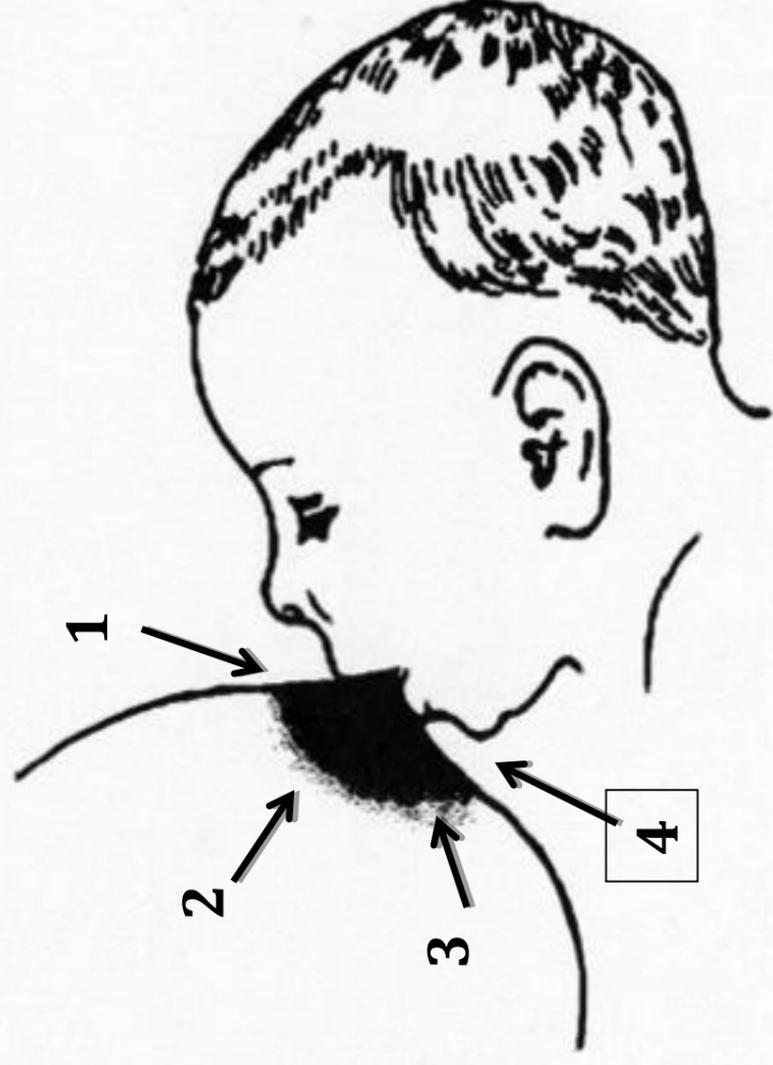


Dê somente leite materno à criança entre 0 aos 6 meses, pois tem tudo o que a criança precisa, e protege à criança das doenças.



BOA PEGA

MÁ PEGA



**Sempre há leite suficiente: quanto mais amamenta, mais leite produz. Esvazie um peito, antes de passar para o segundo.
O leite mais gordo está mais para dentro!**

Fontes de desenhos: WHO/UNICEF; PATH

ALIMENTAÇÃO (3) DAR DE COMER A CRIANÇA A PARTIR DE 6 MESES

DE 6 AOS 8 MESES

Avião chegou!

FÍGADO, RINS

DE 9 AOS 11 MESES

Prova manga, Ilídio!

FÍGADO, RINS

DE 1 AOS 5 ANOS

DAR O PEITO ATÉ AOS 2 ANOS

Bonito! Estás a comer sozinha!

NÃO DÊ A CRIANÇA REFRESCOS, CHÁ, DOCES E NIK NAK, PARA NÃO ESTRAGAR O APETITE E OS DENTES.

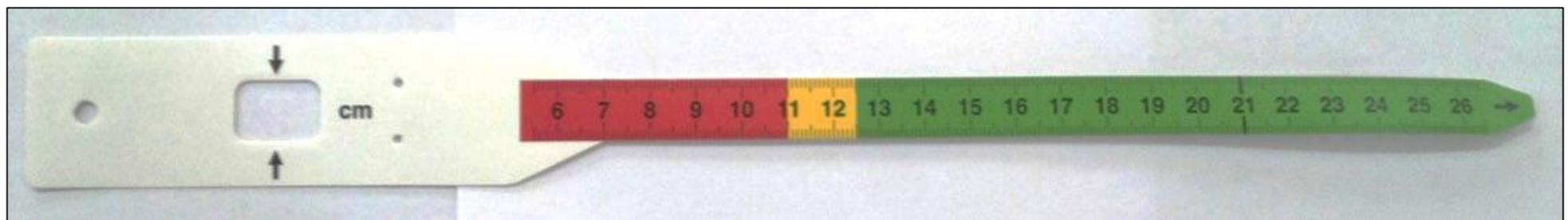


ALIMENTAÇÃO (4) – DETECTAR DE SNUTRIÇÃO NA CRIANÇA



A CRIANÇA PODE ESTIVER
BAIXA PARA IDADE,
TER PÉS ENCHADAS,
CABELO FERRUJADO,
E NÃO TER FORÇA.

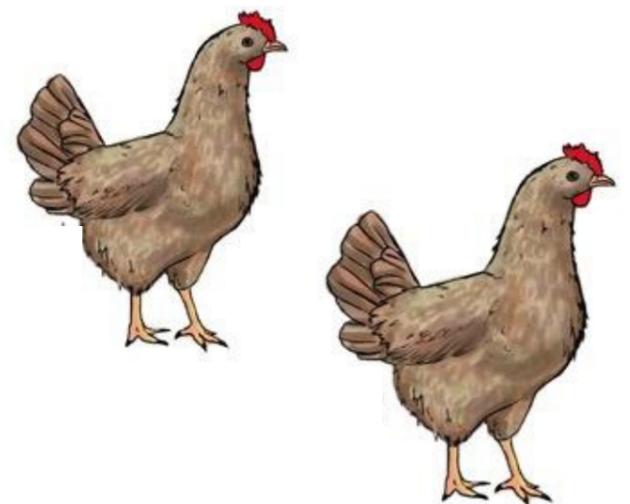
ISSO ACONTECE QUANDO
ELA TEM FALTA DE ALIMENTOS
QUE AJUDAM A CRESCER E
PROTEGEM DAS DOENÇAS.



VERMELHO – Refira imediatamente para a US

AMARELO – Refira para a US se tem outras doenças caso não faz reabilitação nutricional.

VERDE – Elogie e aconselhe a continuar com boas práticas de alimentação



CRIANÇA. ORGANIZE UMA HORTA CASEIRA.
CRIE GALINHAS PARA TER OVOS EM CASA.

EDUCAÇÃO (1) - COMUNICAR COM ESCOLA E AJUDAR A CRIANÇA



**CONVERSE COM OS PROFESSORES
SOBRE A SUA CRIANÇA**



**PROCURE SABER COM AMIGAS, AMIGOS OU
COLEGAS COMO A CRIANÇA ESTA A SER
TRATADAS NA ESCOLA**



**ASSEGURE QUE A CRIANÇA VAI
A ESCOLA CADA DIA**



**ASSEGURE QUE A CRIANÇA TENHA
O MATERIAL E A UNIFORME PARA ESCOLA**

Adaptado & Reproduzido Por:

EDUCAÇÃO (2) - INCORAJAR A CRIANÇA A ESTUDAR



DÊ A CRIANÇA O TEMPO PARA FAZER TPC, NUM LOCAL SEM DISTRAÇÕES.



AJUDE A CRIANÇA A PERCEBER O TPC. VERIFIQUE O TPC NO FIM. IDENTIFIQUE AS PESSOAS QUE PODEM AJUDAR



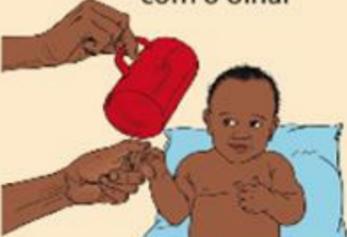
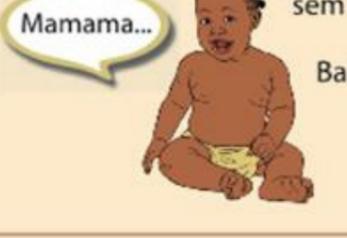
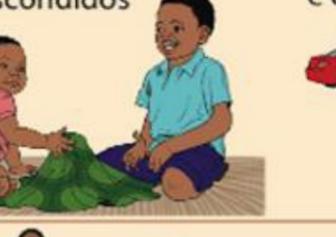
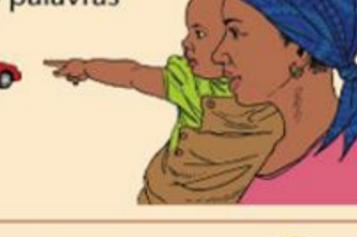
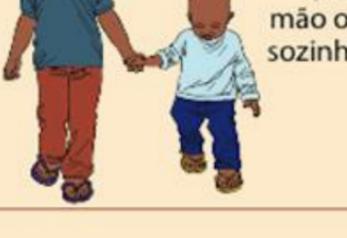
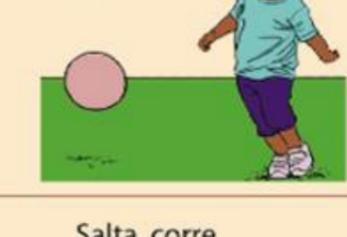
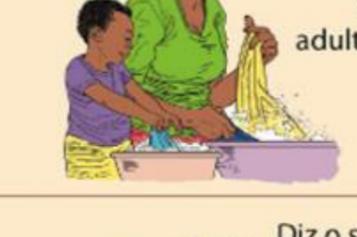
NÃO ACEITE O CASAMENTO PREMATURO DA MENINA (ANTES DE 18 ANOS).



MOTIVE A MENINA A ESTUDAR MESMO DEPOIS DE 18 ANOS. CONVERSE SOBRE O QUE APRENDE NA ESCOLA.

Adaptado & Reproduzido Por:

OBSERVE COMO A SUA CRIANÇA ESTÁ A SE DESENVOLVER

3 Meses	<p>Segue o objecto com o olhar</p> 	<p>Vira a cabeça para o som</p> 	<p>Sustenta a cabeça</p> 	<p>Sorri quando lhe falam</p> 	
6 Meses	<p>Começa a sentar</p> 	<p>Alcança e pega objectos com a mão</p> 	<p>Rebola</p> 	<p>Balbuca</p> <p>Ahahah...</p> 	<p>Responde às emoções do cuidador</p> 
9 Meses	<p>Mamama...</p> <p>Senta-se sem apoio</p> <p>Balbuca</p> 	<p>Começa a gatinhar ou ficar em pé</p> 	<p>Imita os sons e os gestos do cuidador</p> 	<p>Rosa!</p> <p>Responde ao seu nome</p> 	
12 Meses	<p>Gatinha ou fica de pé</p> 	<p>Pega objectos com 2 dedos</p> 	<p>Procura objectos escondidos</p> 	<p>Aponta nos objectos e diz 2-3 palavras</p> 	
18 Meses	<p>Anda apoiado pela mão ou sozinho</p> 	<p>Bebe de copo</p> 	<p>Diz 7-10 palavras</p> <p>Leão!</p> 	<p>Onde está o nariz?</p> <p>Aponta às partes do corpo</p> 	
2 Anos	<p>Chuta bola e começa a correr</p> 	<p>Traz-me 2 papaias, filha.</p> <p>Responde aos pedidos</p> 	<p>Canta e usa frases curtas para falar</p> <p>Galo bonito!</p> 	<p>Imita acções de adultos</p> 	
3 Anos	<p>Salta, corre</p> 	<p>Despe-se e veste sozinho</p> 	<p>Junta coisas iguais, começa a contar</p> 	<p>Brinca com outras crianças</p> 	<p>Diz o seu nome e conta sobre si</p> 

DPI (2) - CONVERSAR E BRINCAR COM A CRIANÇA PARA ELA CRESCER SAUDÁVEL E ACTIVA

DESDE A GRAVIDEZ
ATÉ AOS 3 MESES



Ola, meu
bebé!

DE 3 AOS 6 MESES



Onde está o
chocalho, Fatima?

DE 6 AOS 12 MESES

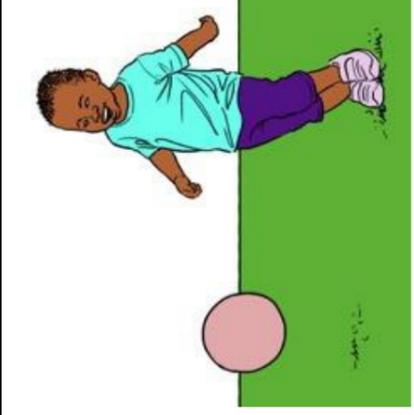


Palmas,
palmas,
Rafael!

DE 1 AOS 2 ANOS



DE 2 AOS 5 ANOS



Mmm..

Mmm...



Uma torre
bonita!



Dê coisas
para
contar e
agrupar



Gostas da
pena?



Taqui
mama!



Onde está o
teu nariz?



O que vai
crescer aqui,
filha?



Bicicleta,
bicicleta...



Carra!

Sim, é um
carro!



O que é
isso, Ana?



Era uma vez...

Adaptado & Reproduzido Por:



DPI (3) – PREVENIR ACIDENTES NA CRIANÇA



Adaptado & Reproduzido Por:

**VERIFIQUE SE HÁ ALGO DENTRO DA CASA OU NO QUINTAL, QUE POSSA SER PERIGOSO PARA A CRIANÇA.
TOME AS MEDIDAS PARA PREVENIR OS ACIDENTES.**

PROTECÇÃO E APOIO LEGAL (1)

TER A VOZ NA FAMÍLIA E SER TRATADO DE FORMA IGUAL



É BOM QUANDO AS CRIANÇAS PARTICIPAM COM SUAS IDEIAS E OPINIÕES, NA FAMÍLIA. ASSIM, TAMBÉM SERÃO ACTIVAS NA SUA COMUNIDADE, QUANDO ADULTAS.



TRATE TODAS AS CRIANÇAS DE FORMA IGUAL, NA MANEIRA COMO DÁ DE COMER E NAS TAREFAS QUE ELES TENHAM



VIGIE PARA QUE AS CRIANÇAS NÃO EXCLUAM OU PROVOCAM OS MAIS VULNERÁVEIS.

ASSEGURE QUE A CRIANÇA TENHA OS DOCUMENTOS, TAIS COMO A CEDULA, O B.I., E O ATESTADO DE POBREZA

PROTECÇÃO E APOIO LEGAL (2) - PREVENIR E DENUNCIAR A VIOLÊNCIA



NÃO BATA OU GRITA NA MULHER, DURANTE A GRAVIDEZ OU EM QUALQUER OUTRA ALTURA. A VIOLÊNCIA NA GRAVIDEZ PODE LEVAR AO PARTO PREMATURO OU ATÉ A MORTE DO BEBÊ.



NÃO GRITE, CHAME NOMES OU BATE NA CRIANÇA



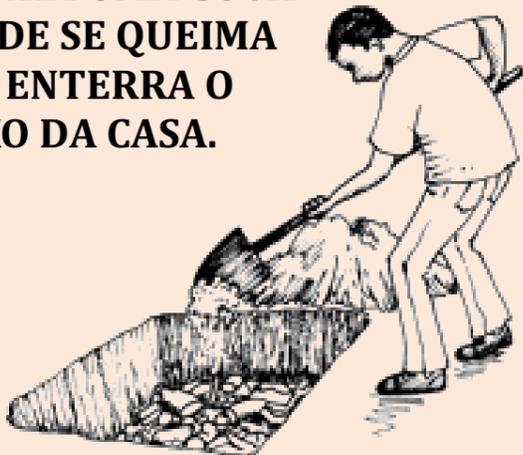
PROTEJA A CRIANÇA E DENUNCIE O VIOLADOR

CONFORTE A CRIANÇA VIOLADA E LEVE PARA HOSPITAL DENTRO DE 72 HORAS PARA PREVENIR HIV E OUTRAS DOENÇAS.

SINAIS DE VIOLÊNCIA: Arranhões, feridas nos órgãos genitais ou manchas no corpo; tristeza, isolamento, perda de interesse, medo, pesadelos, dificuldades na escola, esquecimento, agressividade.

HABITAÇÃO: UMA CASA CONDIGNA E BEM ORGANIZADA

TENHA UMA COVA ONDE SE QUEIMA OU ENTERRA O LIXO DA CASA.



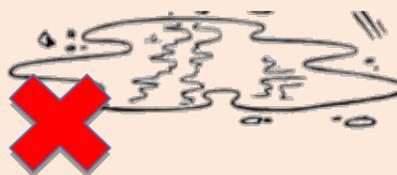
LIMPE A LATRINA COM CINZA E TAPE COM UMA TAMPA.



MANTENHA A CASA LIMPA E BEM AREJADA.

RECOLHE A ÁGUA DA CHUVA.

EVITE ÁGUAS PARADAS NO QUINTAL, PARA PREVENIR A MALÁRIA.



COZINHE NUM LUGAR ONDE ENTRA AR, PARA PREVENIR A PNEUMONIA.

USE A ÁGUA DE LOIÇA PARA A HORTA CASEIRA.



A CASA E O QUINTAL LIMPO EVITAM MUITAS DOENÇAS NAS CRIANÇAS. PEÇA APOIO AOS LÍDERES LOCAIS PARA AJUDAR LHE MELHORAR A SUA CASA, OU CONSTRUIR UMA LATRINA.

Fontes de desenhos: MGCAS; Where there is no artista; UNESCO (Educação Parental)

Adaptado & Reproduzido Por:

FORTALESCIMENTO ECONÓMICO (1) - GRUPO DE POUPANÇA



JUNTE-SE AO GRUPO DE POUPANÇA, PARA MELHOR GERIR E POUPAR O SEU DINHEIRO.



INICIE UM NEGÓCIO DE ACORDO COM SUAS CAPACIDADES E INTERESSES MESMOS SE NÃO ESTAS DENTRO DE GRUPO DE POUPANÇA .

Adaptado & Reproduzido Por:

FORTALESCIMENTO ECONÓMICO (2) - BOM USO DE DINHEIRO



**MAU USO
DO DINHEIRO
POUPADO**



**BOM USO
DO DINHEIRO
POUPADO**



USE O DINHEIRO POUPADO PARA O BEM DAS CRIANÇAS E DA FAMÍLIA.

Fontes de desenhos: Where there is no artist

Adaptado & Reproduzido Por:

APOIO PSICO-SOCIAL (1)

OBSERVAR AS EMOÇÕES E O COMPORTAMENTO DA CRIANÇA



A CRIANÇA TEM AMIGOS?



A CRIANÇA ESTÁ ISOLADA?



**A CRIANÇA TEM BOM COMPORTAMENTO?
APOIA COM TRABALHOS EM CASA?**



**A CRIANÇA LUTA? DESOBEDECE?
FOGE DA CASA?**

Fontes de desenhos: Where there is no artista; MGCAS

Adaptado & Reproduzido Por:

APOIO PSICO-SOCIAL (2) – CONVERSAR E ENCORAJAR A CRIANÇA



PREPARE A CAIXA DE MEMÓRIA. CONVERSE COM A CRIANÇA ORFÃ SOBRE A FAMÍLIA DELA.



CONFORTE E ENCORAJE A CRIANÇA QUANDO ELA ESTIVER TRISTE



EM CADA DIA, PASSE ALGUM TEMPO COM SUA CRIANÇA

MOSTRE INTERESSE NAQUILO QUE INTERESSA A CRIANÇA. AJUDA ELA A APRENDER MAIS.



ELOGIE A CRIANÇA PELO BOM QUE FAZ

Fontes de desenhos: PATH; Where there is no artista; Hesperian

Adaptado & Reproduzido Por:

Appendix B: Details of Randomization Stage 3 Treatments

In this section, we provide details of the Randomization Stage 3 treatments: 1) the Anti-Stigma Treatment, 2) the HIV/AIDS Information Treatment, and 3) the ART Information Treatment.

1. Anti-Stigma Treatment

In this treatment, the household is given information intended to reduce their concerns about HIV-related stigma in their community. In sum, households are asked in the endline survey about the fraction of households in their community they think hold specific stigmatizing attitudes related to HIV. For any particular attitude for which they are overestimating the fraction of households with stigmatizing attitudes, they are then told the true (lower) rate in their community.

We provide below the implementation details for this treatment.

The following three questions on HIV-related stigma were asked in the baseline survey.

- J17: Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV?
- J19: If a member of your family became sick with AIDS would you be willing to care for them in your own household?
- J20: In your opinion, if a teacher has HIV but is not sick, should they be allowed to continue teaching at school?

We summarized the answers to these three questions of the baseline respondents. Let x_{17} , x_{19} , and x_{20} be the shares of respondents answered “yes” to question J17, J18, and J19, respectively. **Appendix Table B** below shows the values of x_{17} , x_{18} , and x_{19} in each study community. Note that very high shares of respondents answered “yes,” indicating relatively low rates of HIV-related stigma. The anti-stigma treatment will reveal these very low rates of stigmatizing attitudes to respondents, potentially reducing stigma concerns and thereby raising HIV testing rates.

In the endline survey, the respondent will be asked to guess the share of people in their neighborhood answering “yes” to each of the three questions above (i.e., guess the values of x_{17} , x_{19} , and x_{20}). Specifically, in the endline survey, the respondent will be asked the following three questions:

- J17a: If I ask the question, “Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV?”, to 10 people in your neighborhood, how many of them, would you expect, to say “Yes”? (guess the value of x_{17})
- J19a: If I ask the question, “If a member of your family became sick with AIDS would you be willing to care for them in your own household?”, to 10 people in your neighborhood, how many of them, would you expect, to say “Yes”? (guess the value of x_{19})
- J20a: If I ask the question, “In your opinion, if a teacher has HIV but is not sick, should they be allowed to continue teaching at school?”, to 10 people in your neighborhood, how many of them, would you expect, to say “Yes”? (guess the value of x_{20})

Let the answers of the respondent to question J17a, J19a, and J20a in the endline survey be y_{17} , y_{19} , and y_{20} ¹, respectively. If $y_{17} < x_{17}$, then, it suggests that the respondent has overestimated the HIV-related stigma in their community. In this case, we will reveal to him or her the true value of x_{17} in the respondent’s community. If $y_{17} \geq x_{17}$, we will not reveal x_{17} . The same rule applies to the pairs of (y_{19} , x_{19}) and (y_{20} , x_{20}) as well.

¹ $y_{17} = 100\%$ if, when answering question J17a, the respondent guesses that “10 out of 10” people will say “yes”; $y_{17} = 90\%$ if, when answering question J17a, the respondent guesses that “9 out of 10” people will say “yes”; and so on. The same rules apply for y_{19} and y_{20} .

If a respondent answered in the survey in such a way that $y_{17} \geq x_{17}$, $y_{19} \geq x_{19}$, and $y_{20} \geq x_{20}$, then, the anti-stigma treatment will not apply to this respondent.

Enumerators will say the following to respondents, according to the following rules. Survey software will automatically implement these rules, and insert the bold bracketed items. ("Rounded value" means the relevant value from Appendix Table B, rounded to the nearest 10 percentage points, and expressed as an integer value out of 10.)

In the baseline survey, we asked people in your neighborhood questions about their attitudes towards HIV/AIDS. We would like to share with you how people responded to these questions.

If $y_{17} \geq x_{17}$ for this respondent, the next two paragraphs are skipped. Otherwise, the enumerator says:

*In the survey we just finished, you guessed that **[insert respondent's answer to question J17a]** out of 10 people in your community would answer "yes" to the question, "Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV?"*

*We did ask this question to people in your community in the baseline survey. They answered "yes" to this question more often than you think they would. Our data show that **[insert rounded value of x17 for the respondent's community from table below]** out of 10 of the people answered "yes", indicating that the vast majority of respondents are supportive of people living with HIV.*

If $y_{19} \geq x_{19}$ for this respondent, the next two paragraphs are skipped. Otherwise, the enumerator says:

*In the survey we just finished, you guessed that **[insert respondent's answer to question J19a]** out of 10 people in your community would answer "yes" to the question, "If a member of your family became sick with AIDS would you be willing to care for them in your own household?"*

*We did ask this question to people in your community in the baseline survey. They answered "yes" to this question more often than you think they would. Our data show that **[insert rounded value of x19 for the respondent's community from table below]** of the people answered "yes", indicating that the majority of respondents are supportive of people living with HIV.*

If $y_{20} \geq x_{20}$ for this respondent, the next two paragraphs are skipped. Otherwise, the enumerator says:

*In the survey we just finished, you guessed that **[insert respondent's answer to question J20a]** out of 10 people in your community would answer "yes" to the question, "In your opinion, if a teacher has HIV but is not sick, should they be allowed to continue teaching at school?"*

*We did ask this question to people in your community in the baseline survey. They answered "yes" to this question more often than you think they would. Our data show that **[insert rounded value of x20 for the respondent's community from table below]** of the people answered "yes", indicating that the majority of the respondents are supportive of people living with HIV.*

Appendix Table B: Rates of Non-Stigmatizing Attitudes Related to HIV

Community Name	Share of respondents answering "yes" to question J17 (i.e. x17)	Share of respondents answering "yes" to question J19 (i.e. x19)	Share of respondents answering "yes" to question J20 (i.e. x20)
EPC de Chipinde	92.5%	96.8%	92.3%
EPC de Munhonha	93.6%	99.1%	96.3%
ES do Dondo	86.8%	96.2%	91.4%
ES de Macharote	75.0%	94.3%	85.4%
EPC 25 de Setembro CFM	81.3%	98.9%	95.4%
EPC 7 de Abril - Matadouro	87.5%	99.0%	93.8%
EPC de Centro de Acomodação - Mach	75.0%	91.8%	87.5%
EPC C.A.de Cheringoma - Dondo	68.4%	85.4%	75.0%
EPC Samora M. Machel	72.6%	84.3%	76.3%
EPC de Mussassa	67.5%	85.7%	71.4%
EPC de Monte Siluvo	87.1%	100.0%	87.5%
EPC de Nharuchonga	79.2%	98.6%	89.7%
EPC de 3 de Fevereiro	88.9%	95.5%	85.7%
EPC 25 de Setembro	91.5%	96.7%	94.2%
EPC 12 de Outubro	89.3%	98.2%	91.1%
EPC Acordos de Lusaka	81.8%	100.0%	89.5%
ES de Tica	93.3%	96.8%	93.7%
ES de Metuchira	79.0%	98.5%	84.9%
EPC de Muda - Gondola	71.6%	89.7%	87.0%
EPC 1 de Maio - Gondola	81.1%	96.1%	94.7%
EPC de Eduardo Mondlane - Mucorodzi	72.6%	82.8%	88.9%
EPC de Cafumpe	75.0%	95.9%	90.4%
ES Josina Machel	88.1%	95.3%	93.8%
ES de Macombe	72.8%	94.1%	91.7%
EPC de Mussiquir	64.5%	87.5%	87.1%
EPC de Bela Vista - Gondola	72.4%	93.2%	86.0%
EPC de Cabeça do Velho	83.6%	80.9%	86.8%
EPC da Fepom	89.2%	97.3%	93.2%
EPC de Nhamaonha	79.7%	89.4%	87.9%
EPC 25 de Setembro	86.9%	100.0%	96.6%
EPC do Centro Hípico	78.7%	95.2%	91.9%
EPC de Nhamadjessa	74.3%	90.3%	91.5%
EPC 7 de Setembro	81.2%	97.1%	88.4%

EPC 7 de Abril	89.2%	95.5%	98.4%
EPC 1 de Junho	80.3%	92.4%	88.3%
EPC de Mudzingadzi	92.8%	94.5%	93.2%
ES da Soalpo	73.1%	94.2%	86.8%
ES Eduardo Mondlane	83.3%	84.6%	83.3%
ES da Vila Nova	72.2%	91.3%	86.1%
ES 7 de Abril	73.5%	95.7%	95.4%
ES de Messica	62.9%	88.2%	79.4%
EPC Eduardo Mondlane	77.3%	80.3%	81.5%
EPC de Vumba	82.0%	86.0%	84.0%
EPC Messica Aldeia	78.9%	89.5%	84.2%
EPC de Manhate	72.2%	79.2%	83.3%
EPC Estevao Dimaka	75.0%	72.9%	71.4%
EPC de Manica	71.7%	87.0%	92.5%

2. HIV/AIDS Information Treatment

Enumerators will read the following text to the respondent after the conclusion of the endline survey.

HIV stands for Human Immunodeficiency Virus. When this virus infects someone, it attacks and eventually destroys the immune system over several years. The immune system is the part of your body that protects you from diseases. Most people with HIV look and feel normal at first until their immune system is destroyed and they develop severe infections and cancers that may be fatal.

HIV is not caused by witchcraft or supernatural power. HIV is a viral infection transmitted from one person to another through semen, vaginal fluid or, blood. It can also be transmitted from a mother to a baby during pregnancy, delivery or breastfeeding. HIV is not transmitted through mosquito bites, kissing, shaking hands or sharing dishes.

If a person with HIV does not receive treatment, HIV will multiply in the body very quickly. As the viruses multiply, they can damage the body's defenses against infections and cancers and eventually cause AIDS. Without treatment, an infected person develops AIDS in ten years on average. Common symptoms of AIDS include rapid weight loss; recurring fever; extreme tiredness; long-lasting diarrhea; swelling of the lymph glands; blotches on or under the skin or inside the mouth, nose, or eyelids; and memory loss. Without treatment, someone with AIDS typically survives about three years before they die.

3. ART Information Treatment

Enumerators will read the following text to the respondent after the conclusion of the endline survey.

HIV is no longer considered to be a death sentence. We now have a free and very effective treatment for HIV.

Antiretroviral therapy (also known as ART) is medication that stops HIV dead in its tracks. It keeps an infected person healthy by preventing HIV from destroying their immune system. It does not eliminate the virus from the body but prevents it from harming the infected person and making it less likely for them to transmit the virus to others.

Starting medication at an earlier stage of infection will greatly improve an infected person's survival rate. So it is important for people who are at risk to take an HIV test even if they still feel healthy, and start ART treatment immediately if the test result is positive. People who are diagnosed with HIV early and who start medication quickly have a better chance of staying healthy and can live as long as uninfected people. Also, the earlier someone is diagnosed and starts treatment, the less likely they are to spread HIV to loved ones.

Appendix C: Section M of Endline Survey

Section M – Support

- M01 Have you heard of [local FCC-LIP partner organization]?
- MA1 What other social service organizations in your community have you heard of?
(Selection from community-specific NGO list, allowing for free text entry of other response.)
- Repeat questions M02-M05 for each organization that has been heard of, including the FCC-LIP*
- M02 If yes, have you or any members of your household been contacted by a case care worker (community health worker) from the organization?
- M03 If yes, were you referred to any services by the case care workers from this organization?
- M03 If yes, what types of services were you referred to? (Education Health Psycho Social Support (PSS) Housing Early Childhood Development (ECD) Child Protection Legal Support (CPL) Food & Nutrition Economic Strengthening Post Exposure Prophylaxis (PPE) Other (Specify))
- M05 If yes, how many times have they contacted you related to their work as a case care worker?
- MA2 When it comes to the services provided to you by the FCC local partner organization, have you been “graduated” from receiving these services? ("Graduated" means that you are no longer receiving any specific direct FCC services, and are no longer being visited regularly by the LIP case care workers.)
- MA3 If so, when did you “graduate”?
- MA4 Have you any household member been referred to take an HIV test during the past 12 months?
- MA5 If yes, by whom or by what organization? (Review list of choices; can choose more than one)
- LIP case care worker
 - [List other local NGOs]
 - Worker at another NGO (specify: _____)
 - Community leader
 - Government worker (specify agency: _____)
 - Neighbor
 - Family member
 - Other, specify: _____
- MA6 If yes, did anyone in the household take up the recommendation to be tested for HIV in the last 12 months? If so, how many people did so in the last 12 months?
- MA7 Has anyone in the household received support from a local organization to help them adhere to their antiretroviral therapy (ART) treatment for HIV/AIDS in the last 12 months?
- MA8 If yes, by what organization? [provide list of local NGOs; can choose more than one]
- MA9 If yes, how many people received such support in the last 12 months?
- M06 Have you heard of your local Community Child Protection Committee?
- M08 To your knowledge, have any of the children in your household undergone a nutrition assessment? (For example, measuring height/weight at a service site in the community.)

- M09 If yes, which organization provided the services?
- M10 Have you received any information about gender-based violence?
- M11_1 If yes, do you know where to go to if you have any problem related to gender-based violence? (Centro de saúde/hospital Accao Social Policia, esquadra ONGs local ou INGOs local/chefe do quarteirão/líder comunitário)
- M12 If yes, in which context did you get information on gender-based violence? (Child Rights Club School Council Girls's Empowerment Clubs Other School-based program (specify) Broadcast media (radio, TV) VSL Group Community meeting Other group meeting (specify) Other (specify))
- M13 If yes, which organization provided this information?
- M14 Have you heard about a child's rights club (a group where children can learn about and discuss child rights) at the school the children in your household attend?
- M15 If yes, are any children in your household members of the child's rights club?
- M16 Have you heard about a girls' empowerment club at the school or in the community that children in your household attend?
- M17 If yes, are any children in your household members of the girls' empowerment club?
- M18 In the past 12 months, has your household received any education subsidies or support for the children who belong to your household?
- M19 If yes, what types of support did you receive? (Uniforms Books School materials Referral for Life Skills Services Psychosocial Support HIV Education GBV Prevention and Response Other (Specify))
- M20 If yes, which organization provided the support?
- M21 In the past 12 months, have you taken part in any teacher-parents meeting at the school the children in your household attend?
- M22 In the past 12 months, has your household received any training, services or support to improve your income?
- M23 If yes, what types of support did you receive? (Cash grant through social cash transfer Business Credit/loan scheme Group/Village Savings Entrepreneurship training Agricultural support Provision of land Income Generating Actives Vocational Training Village Saving and Loan Group Other (Specify))
- M24 If yes, which organization provided the support?
- M25 How would you rate the effect or impact of these services on your ability to support your family compared to the time before the services? (1 = not much change, 2 = worse off, 3 = improved, 4 = greatly improved)
- M26 Have you heard about a youth economic strengthening (YES) club?
- M27 If yes, are any children in your household members of the YES club?
- M28 If yes, which organization organized the YES club?
- M29 In the past 12 months, has your household received household supplies from a community group or other organization for which you did not have to pay?
- M30 If yes, did you receive the following items? (Blankets Bed nets Clothing or Shoes Pots or Utensils for cooking or eating Other (Specify))
- M31 If yes, which organization provided the support?
- M32 In the past 12 months, has your household received assistance with home maintenance from a community group or other organization for which you did not have to pay?
- M33 If yes, what were the type(s) or repairs? (Roof Door or Window Walls Floor Toilet or other plumbing Other (Specify))
- M34 If yes, which organization provided the support?

- M35 In the past 12 months, have you or anyone in your household received information from a community group or other organization about preparing healthy foods for children under your care?
- M36 If yes, which organization provided the support?
- M37 In the past 12 months, has your household received a food package from a community group or other organization for which you did not have to pay?
- M38 If yes, how many times during the last 12 months did you receive a food package (s)?
- M39 If yes, which organization provided the support?
- M40 In the past 12 months, has anyone from a community group or other organization provided you with information on children's rights?
- M41 If yes, which group provided the information?
- M42 In the past 12 months, has anyone from a community group or other organization provided you with information on the need to protect children from abuse?
- M43 If yes, which group provided the information?